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The Role of Sustainability in Park and Recreation Administrators' Policy Decisions

Stephen Smith
University of Tennessee, Knoxville, ssmit325@utk.edu

To the Graduate Council:

I am submitting herewith a dissertation written by Stephen Smith entitled "The Role of Sustainability in Park and Recreation Administrators' Policy Decisions." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Kinesiology and Sport Studies.

Robin L. Hardin, Major Professor

We have read this dissertation and recommend its acceptance:

Michelle L. Childs, Jeffrey A. Graham, Steven N. Waller

Accepted for the Council:

Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

The Role of Sustainability in Park and Recreation Administrators' Policy Decisions

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Stephen Scott Smith

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Dedication

While I was preparing my defense presentation, a childhood friend repeatedly came to mind. He died years ago after a long struggle with Huntington's disease—just like his father before him and his brother after him. I am not certain, but I believe none of them saw their 40th birthdays. I could not shake the feeling that I let him down somehow. I should be studying something much more important than recreation, like maybe a cure for HD. Clearly, this was not a rational thought, as I would be of no help in any medical field. Still, the thought kept popping into my head.

I started playing back the many memories I have of those years with my friend. Then, it finally dawned on me—the vast majority of those memories involved playing outside. There were countless hours running through the woods across the street from my house. There were five years of winters skiing as often as we could get rides to the slopes. Of course, there were bike rides; we were kids, so it was our main mode of transportation.

I know I have a lot of influential figures leading to my love of nature, and he is definitely one of them. So, if anyone would appreciate that I started my research journey with a study on outdoor recreation, it would be him. And I think he would be happy. Outdoor recreation was what we did. This dissertation is dedicated to my dear friend, Myles.

Acknowledgments

I am blessed, as the noted philosopher, Eddie Vedder (2009), sings, "I'm a lucky man to count on both hands the ones I love." As such, I cannot list everyone that has helped me along this journey. Please forgive me for my brevity.

Lori and Harper, you are simply my world. Thank you for understanding and facilitating my many hours behind a closed door to complete this task. Thank you also for the needed distractions to clear my head enough to be productive once the door inevitably closed again. Thank you most of all for your love.

Mom, thank you for fostering my curiosity my entire life. We have come a long way from "Do spiders have tongues?" and "What comes after infinity?" Your constant encouragement of anything I set out to do was and is uplifting, necessary, and what got me through more times than you will ever know. Thank you for being my example of strength, resilience, and unconditional love.

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To the Chawkins and Capells—thank you for your love and support. War Eagle.

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To the staff and faculty in KRSS—thank you for all of the encouragement. Having you in my corner throughout these few years means a lot. I am grateful and lucky to be a part of this department.

Philippians 4:13

Abstract

This study assessed the extent to which economic, environmental, and social sustainability concerns factor into park and recreation administrators' decisions regarding outdoor recreation and facilities. Links to an anonymous, online survey were emailed to state and local park and recreation administrators within the state of Tennessee. The study's useable response rate was 22% (122/561).

An adjusted Value Belief Norm (VBN) theory was used as the framework, with variables including administrators' values, beliefs, pro-environmental behavior implementation, perceived constraints, and demographics. Analysis consisted of mediated regression, multiple regression, path analysis, and a qualitative evaluation of submitted constraints. Results supported the general VBN framework's causal chain model, where significant relationships were found in subsequent links as well as links more than one level apart.

Values had a direct effect on behavior as well as an indirect effect when mediated by beliefs. Demographic variables were not found to be significant predictors of pro-environmental behavior implementation. Increasing administrators' biospheric values positively affects their ecological worldview beliefs, which, in turn, increases the likelihood of economic, environmental, and social sustainability policy implementation. Constraints were not found to be a strong influence in this study, with 13 participants citing constraints when questioned. The largest category of constraints cited were structural at 77%. Funding and staffing were the most common specific constraints given.

This study adds to the VBN literature concerning pro-environmental behaviors within organizations generally and park and recreation administrators specifically. Administrators'

biospheric values should be highlighted and enhanced to increase pro-environmental behavior policy implementation within park and recreation departments. Future studies should include organizational influences as variables to examine in the model but focus on a singular pro-environmental behavior.

Table of Contents

LIST OF TABLES

LIST OF FIGURES

Chapter One

Introduction and General Information

Adult Recreation

Adult recreation is a nebulous term. In Latin, the *recreare* stem means "to refresh, restore, make anew, revive, invigorate" (Online Etymology Dictionary, n.d.-a). Each individual's unique experiences define recreation, so it is not the same for everyone. Recreation can be specific to location, population, or era. Defining recreation becomes more complicated as recreational preferences often change over time, both for individuals and society. For example, the movie industry has seen dramatic changes in delivery over time--from theaters to drive-in screens to IMAX to home theaters and now to individual mobile devices.

This study used a simple definition (note: all definitions, unless cited, were conceptualized by the researcher) of recreation: time spent away from labor or responsibility, attempting to restore and revive. Specific activities are not part of the definition, as they vary from person to person. For example, a bird watcher and a forest ranger may have different perspectives regarding a walk in the woods. Adult recreation is a state of mind free from obligation. In today's societies, however, freedom from obligation does not necessarily equal quality time.

Outdoor Recreation

Although the concept of outdoor recreation presumably has been in existence since the invention of structures creating indoor spaces, much of the recreation literature focuses on the periods beginning with industrialization. Progress in transportation allowed for greater distances to be traversed and explored, enabling people to travel farther from their homes to pursue recreation. People can fly to Antarctica to experience ecotourism (Liddle, 1997) or, as a precise

definition of ecotourism is missing (Rahemtulla & Wellstead, 2001), at least Antarctica's version of ecotourism.

Again, this study used a simple definition of outdoor recreation: adult recreation spent outside in a natural environment. In this instance, a natural environment does not mandate zero human-made structures but does imply a minimal amount of such—a trail created and maintained by the parks and recreation department can qualify as a natural environment, but a multi-purpose gymnasium would not. Natural environments can require differing oversight levels (e.g., miles of public access trails versus one gymnasium), so administrators must adjust resources and policy accordingly.

Researchers point to the positive effects of experience in a natural environment (Ballew & Omoto, 2018) and nature-based environmental education programs (Otto & Pensini, 2017). However, as more and more people travel greater distances than previous generations, the cumulative impacts on the natural environment are detrimental (Dubois & Ceron, 2006) and indicate the need for additional research on sustainable practices in recreation.

Sustainability

Grober (2012) notes the first use of the modern, global term sustainability is in Meadows et al.'s 1972 publication of The Club of Rome's *Limits to Growth*. However, researchers generally consider the term to have become popularized following the United Nations' World Commission on Environment and Development 1987 report *Our Common Future*, commonly known as the Brundtland commission or Brundtland report (Liu, 2009; Manning et al., 2011; Purvis et al., 2019, Rosen, 2009). "The commission defined sustainable development as meeting the needs and aspirations of the present generation without compromising the ability of future generations to meet their needs" (Brundtland, 1989, p. 18). Although this definition is

considered to be the first, it is not without its detractors. Critics cite its vagueness and inability to be quantified or implemented (Barrett & Odum, 2000), ability to be changed to fit the needs of researchers' studies (Garrod & Fyall, 1998; Payne et al. 2008), and "needs" being unequal geographically (Liu, 2009). Additionally, sustainability's widespread acceptance is predictable, as few people desire to be seen as anti-sustainability (Campbell, 1996). Still, the idea that development can occur without environmental expense with ethical decision-making was noteworthy.

One of the most common descriptions of sustainability includes three components. Although researchers utilize various terms interchangeably to conceptualize these three components—pillars, dimensions, stool legs, aspects, and perspectives (Purvis et al., 2019)—most agree they denote economic, social, and environmental objectives. A figure of three overlapping circles will often accompany a sustainability definition, each representing one component, and the specific area where all three circles overlap signifies sustainability. Alternatively, some users show a figure of each aspect representing a pillar holding up the sustainability structure (see Figure 1).

If focused on sustainability, administrators should pursue economic, social, and environmental goals simultaneously; no individual component is more significant than the others. However, theoretical development does not back this notion, as researchers tend to be split between those viewing the pillars systematically or as three distinct perspectives (Purvis et al., 2019). Nevertheless, researchers' use of the three components model remains commonplace. Sustainability's seemingly conflicting aims of economic growth in a socially equitable manner while minimizing environmental impact (Campbell, 1996) is a delicate balancing act for parks and recreation administrators. McCool and Stankey (1999) argue that while the idea of

sustainability can bring people with disparate perspectives together in theory, the ambiguity of the definition can make reaching a consensus on actions to pursue sustainability nearly impossible.

Economic Sustainability

Vaugeois et al.'s (2017) systematic literature review of recreation and leisure studies journals from 2005 to 2015 shows the least studied sustainability pillar was economic sustainability. Example articles focused on models of creating financial sustainability for state and local park systems (Crompton, 2010) and the importance of continuity of operations planning to recover during and after emergency or disaster events (Whitworth, 2006). In the current study, economic sustainability will focus on the Brundtland notion of meeting economic needs without harming future economic needs. Ideally, economic sustainability implies a mutually beneficial relationship between participation expenditures and ecosystem protection (Hjerpe, 2018). A simple example that should not cost administrators much to apply would be tracking financial expenditures on current practices or economic changes due to newly implemented practices or equipment.

Social Sustainability

Social and cultural sustainability, the middle pillar in terms of total research in recreation and leisure studies journals (Vaugeois et al., 2017), is focused on people and their use of the environment (Payne et al., 2008). The difficulty in defining social sustainability involves the many questions of emphasis. If administrators aim to meet today's needs without harming future needs, natural questions arise. Whose needs? Which people? Whose future? To help find equity in decision-making, administrators must strive to create partnerships (McCool, 2009) or utilize collaboration (Jamal & Stronza, 2009) to include stakeholders. As Bitsura-Meszaros et al.

(2019) note, “The stakeholders’ knowledge, as well as their commitment to their communities and local environments” (p. 1) can be a valuable influence on administrators’ perceptions. Additionally, stakeholders can help identify and eliminate constraints to outdoor recreation (Ghimire et al., 2014).

Expanding on social sustainability is the concept of “just sustainability.” In Stratton’s (2020) interview of Julian Agyeman, one of the founders of just sustainability, Agyeman offers the following definition: “improving people’s quality of life now and into the future in a just and equitable manner, while living within the limits of ecosystems” (p. 38). As a pitfall to avoid, Anguelovski (2016) illustrates how urban sustainability and greening projects can lead to change, but not necessarily positive change to long-term vulnerable residents that can be displaced. This study will utilize Agyeman’s more specific just sustainability definition in place of social sustainability’s broader connotations.

An example of just sustainability would be a Tennessee park establishing a community flower garden maintained by area adults with disabilities with the help of master gardener volunteers (Schofinski, 2020). The flower garden presumably improves community residents’ quality of life while also including a vulnerable population in planning and implementing the project. Strong ties to the local community can promote creative and successful initiatives, especially when administrators solicit minorities and under-represented groups for input in planning processes (Waller, 2009).

Environmental Sustainability

Perhaps what comes to mind most when discussing sustainability is the notion of environmental sustainability. Vaugeois et al. (2017) found environmental sustainability to be the most heavily researched of the pillars in their analysis of recreation and leisure studies journals.

Promoting the natural world while avoiding exploiting it challenges many sites (Goodspeed, 2007). Some administrators follow the ecosystem management approach to environmental sustainability: "The integrity of important ecological processes must be protected, but environmental resources must ultimately be managed for the benefits of society" (Manning et al., 2011, p. 27). Others see humanity as part of the broader environment, albeit a destructive part. Rachel Carson's seminal work *Silent Spring* notes man's power over the environment. "Only within the moment of time represented by the present century has one species—man—acquired significant power to alter the nature of his world" (Carson, 1962, p. 7).

Environmental sustainability concerns are broad and seemingly unending (Rosen, 2009). Curran (2009) encourages researchers to think of environmental sustainability not in terms of actions but as a journey to a destination. The journey concept points out a flaw in the overlapping circles, or Venn diagram representation of sustainability as a whole—it is a snapshot, or one moment in time in what is essentially a dynamic process (Lozano, 2008). Terms such as carrying capacity try to establish how much environmental impact is allowed (Shelby & Heberlein, 1986) and help balance outdoor recreation supply and demand (Brissette et al., 2001). However, who decides what and how much impact is allowed? What factors determine when the supply of a natural environment balances with its demand?

These questions show the importance of the Venn diagram model. For true sustainability, each component works with the others. The social sustainability circle or pillar must be present to meet today's environmental needs without harming future environmental needs. Someone must speak for the environment when assessing present and future needs. For parks and recreation administrators, the policies they create can be a voice for the environment. As a large-scale example, the National Environmental Policy Act (NEPA), enacted in 1970,

requires federal agencies to assess and report environmental impact statements for proposed projects. These impact statements act as the environment's voice before potential damage arises. On a smaller scale, tracking recreationists through Denali's backcountry can help show administrators areas of potential ecological concern (Stamberger et al., 2018). Using technology to track visitors accurately in remote areas requires less personnel and can be used as the environment's voice to warn of hotspots before they occur. For this study, environmental sustainability focused on protecting ecosystems, land, water, air, and the natural environment.

Recreation Sustainability Movement in the United States

Post industrialization, especially after World War II, labor hours in the factory declined (Selen & Zepeda, 2015), leaving people with more time away from work. This divide between work and recreation was the beginning of modern leisure (Freysinger & Kelly, 2004). The Outdoor Recreation Resources Review Commission (ORRRC) was established by Congress in 1958 to determine outdoor recreation needs, inventory resources, and set policy (Harmon et al., 2019; Siehl, 2008). Transforming aspects of outdoor recreation into quantifiable data helped the commission report findings concerning the economic benefits. Reports on social or environmental factors, other than the need to acquire more land for greater opportunities, especially near metropolitan areas (Siehl, 2008), are limited to little more than participation rates and demographics. The ORRRC defines quality in terms of visitor satisfaction (Manning, 2011b).

The interdisciplinary nature of sustainability brings in sources not initially written for recreation purposes. For example, recreation researchers commonly cite Carson's (1962) environmental science book *Silent Spring* and Hardin's (1968) ecology article *The Tragedy of the Commons* as primary source material. The 1987 Brundtland report changed the paradigm,

combining economic progress with environmental protection and quality of life needs (McCool & Moisey, 2001). In 1997, Elkington first used the term "triple bottom line" to represent profit, people, and planet, an alliterative version of the economic, social, and environmental sustainability pillars.

Finally, as sustainability initiatives become more popular than in previous eras, a question arises as to whether people, including parks and recreation department administrators, misrepresent their efforts either knowingly or unknowingly. "Greenwashing," coined by botanist Jay Westerveld (Motavalli, 2011), denotes the large gap between what companies claim they are doing to protect the environment and how harmful their practices are. Greenwashing can include hidden trade-offs, or a company highlighting a single environmental claim about its product, while hiding its widespread unsustainable practices. This gap between claims and practices, along with hidden trade-offs, factor into an organization's brand image. Childs et al. (2019) examined organizational brand authenticity, finding consumers have more favorable perceptions of authenticity when they view information on a sustainable brand's website, as opposed to a disposable brand's information via a news source. Miller (2017) explains how sport can be doubly complicit in greenwashing. First, sporting operations have significant carbon footprints through facility construction, energy use, and travel for both team personnel and spectators. Additionally, a team can be sponsored by a company that is notoriously detrimental to the environment but wants to better its image by associating with the beloved team. Although motives cannot be proven, BP's sponsorship of U.S. Paralympic teams (BP, 2017) can be viewed as an example.

As an example of research covering employee insights into organizational practice, George (2003) examined ski operators' perceptions in light of greenwashing claims regarding the

National Ski Areas Association's Sustainable Slopes Charter. Another study by Checker (2011) connects the concepts of just sustainability and greenwashing, exploring how cities use the construction of new parks to displace low-income residents.

Outdoor Recreation Resources Review Commission

Following World War II, interest in outdoor recreation rose sharply (Harmon et al., 2019; Selen & Zepeda, 2015). With this new popularity, Siehl (2008) notes, demand for outdoor recreation quickly surpassed the nation's recreation resources supply. Congress, reacting to the surging trend and its resulting issues, established the Outdoor Recreation Resources Review Commission (ORRRC) to study the country's outdoor recreation needs. A truly bipartisan effort, the ORRRC began in 1958 under President Dwight D. Eisenhower and concluded in 1962, issuing a final report to President John F. Kennedy. The ORRRC's task was threefold (Siehl, 2008):

- to determine outdoor recreation needs at three intervals—the current time, 1976, and 2000;
- to inventory the resources available to meet those needs; and
- to define the policies needed to meet those needs.

The ORRRC is credited as the impetus behind expanding the National Park System, the wilderness movement, State Comprehensive Outdoor Recreation Plans (SCORP), and establishing the Bureau of Outdoor Recreation in 1963 and the Land and Water Conservation Fund in 1965. As this study is concerned with parks and recreation facilities at various levels in Tennessee, the current State Recreation Plan will give valuable insight into the state's overall recreation policy. The plans, prepared every five years since 1965 (Tennessee Department of

Environment & Conservation, 2020a), directly result from ORRRC's efforts and recommendations.

A key to its success was the ORRRC's reframing of outdoor recreational lands as quantifiable natural resources, much like timber or mineral resources (Olson, 2010). Measurable resources allow for categorization, regulation, and management, encouraging land managers to maximize efficiency. As President Kennedy noted, upon signing the Outdoor Recreation Bill in 1963, the ORRRC report demonstrated "the need for an affirmative program to ensure the best possible use of those resources which will rapidly be swallowed up for other uses unless adequately protected and utilized" (Woolley & Peters, n.d., para. 2).

The ORRRC conducted the first nationwide outdoor recreation survey in 1960 (Cordell et al., 2005), renamed the National Survey on Recreation and the Environment (NSRE) with the 1995 iteration. The ORRRC, through the original survey and what has become the NSRE, intended to inform administrators' decisions and aid in sound management practices. The result was an "avalanche" (Harmon et al., 2019) of research on myriad outdoor recreation topics. Cottrell and Cottrell (1998) noted, unfortunately for administrators, how the typical outdoor recreation research is "conducted and written by academics for academics; difficult language, style, and focus on statistics make it difficult for practitioners to read" (p. 68).

Though the ORRRC framed outdoor recreation as a public good for "all Americans," Thomas (2016) is critical of the effort due to the commission's inattention to access inequalities and participation level disparities between genders, classes, and races. Though "our relationship with the outdoors has changed from one in which we used natural resources out of pure necessity to one in which we voluntarily engage in outdoor activities for leisure, enjoyment, and

adventure" (Siehl, 2008, p. 21), Thomas (2016) notes how current land acquisition efforts remain socially inequitable.

Sustainability Policy and Decision-Making

The ORRRC report proposed states help improve nationwide outdoor recreation opportunities. Jensen and Guthrie (2006) note individual states did not have adequate funding to successfully complete ORRRC's recommendations, prompting the creation of the Land and Water Conservation Fund (LCWF). The LCWF used grant-in-aid funding to match state funding in order to purchase and develop outdoor recreation sites. However, funding was tied to an initial step: completing state plans. This requirement led to the development of a State Comprehensive Outdoor Recreation Plan (SCORP) for each state. The 1980s saw a shift to the privatization of outdoor recreation and a shift to increased state and local control of outdoor recreation areas (Cordell et al., 1990; Jensen & Guthrie, 2006).

The National Recreation and Park Association (NRPA) identifies policy development as the first key priority area for agencies to create sustainability (Acquino, 2019). Rockwood (1982) lists elected officials, boards, and administrators as public policymakers for public parks and recreation departments. In addition to those groups, the community, special interest groups, and the media are public policy influencers.

Legislation

The LCWF mandate of completing a state plan to receive matching grant-in-aid funding is a clear example of elected officials utilizing legislation to create policy. Tying financial resources to the completion of a new, mandatory task requires administrators to create and implement new policy. Pennsylvania requiring state parks to reach zero-emission and derive a minimum of 18.5% of energy from clean energy sources (St. Esprit & Smith, 2011) are

additional policy-making steps. Perhaps the greatest determiner of policy and its implementation is the budget allocated to park and recreation departments, usually by elected officials. Administrators need to be creative as departmental funding for green initiatives and sustainability programs decreases (Mehlhoff, 2019).

Public-private partnerships and philanthropy are increasingly becoming solutions for governmental funding reductions (Kardys, 2018). Administrator and staff interaction within local communities "are likely to have a direct impact on community members' willingness to support their local centers" (Browning et al., 2018, p. 337). Support can come in many forms, including visits, donations, and hours spent volunteering. Additionally, relating to Rockwood's (1982) inclusion of community power structure in his list of policy influencers, prominent community members can help secure local government official buy-in for projects and proposals (Scott et al., 2017).

Environmental Sustainability Education

One strategy to help build community support for environmental sustainability is through education programs. In their case study on Pennsylvania State Parks, St. Esprit and Smith (2011) found, due to decreasing budgets, parks showcase sustainability projects for visitors to see, then through experiential learning, implement in their own lives. With no set curriculum, administrators can tailor educational programs to fit individual park or facility strengths. One of the cheapest and easiest educational platforms to implement is signage highlighting various sustainability aspects throughout the site. With researchers calling for more significant opportunities for families to participate in outdoor recreation (Pearlman Hougie, 2010; Shaw et al., 2015), educational programs could be one strategy to help meet this need.

Environmental sustainability education programs can help create place attachment, a stable, powerful connection between visitors and the parks closest to them (Davenport et al., 2010). Additionally, Lewicka (2005) notes place attachment increases visitors' sustainable behaviors and civic activity. Administrators should enhance visitor place attachment, as it is easier to retain visitors than attract new ones (Petrick, 2004; Shoemaker & Lewis, 1999). Starting the education and repeat visitor process early, many park and recreation agencies offer Out-of-School Time (OST) programs on environmental stewardship and sustainability to local community youth. "More than half of park and recreation agencies offer OST science, technology, engineering, and math (STEM) activities that focus on the environment, technology, and project-based learning" (Santoro & Lau, 2019, para. 2).

Special Interest Groups

Special interest groups, both internal and external to a park and recreation department, can have a wide-ranging influence on policy-making—typically not exerting the most significant influence, but certainly not a negligible amount either, Rockwood (1982) asserts. He concludes by stating, "To use interest groups to his advantage without being 'captured' by any group is one of the most significant and sensitive games in which the administrator is likely to be engaged" (p. 228).

This notion can be extraordinarily complex with politically charged subjects. Groshong et al.'s (2018) study on Missouri park users' perceptions of climate change impacts found participants acknowledging the political challenges park managers encounter. Strategies include presenting scientific findings to the public and framing communication around specific locally significant themes related to environmental sustainability education, community power structure, and place attachment, as discussed earlier.

Special interest groups may be the most influential in the social sustainability realm. The research shows numerous examples signifying the importance of collaboration on issues regarding social sustainability (Rigolon et al., 2019). Jennings et al. (2012) show participation is key to environmental justice. Lee, Casper, and Floyd (2020) urge administrators to promote racial and ethnic inclusion to help reduce the disparities in public leisure service delivery. Finally, as Gazley et al. (2020) found, special interest groups' charitable giving to state parks varies due to community wealth disparities and state characteristics.

Special interest groups can emerge in response to a perceived threat or to help implement a new vision. Administrators can view these groups as stakeholders, fostering a collaborative, community-based plan. A transactive planning approach, a partnership between administrators with technical expertise and non-professional stakeholders to produce acceptable decisions for all, can help administrators from the beginning of the process (Arni & Khairil, 2013). Schild's (2019) study on civic recreation groups found that the relationship can work both ways; once land managers establish trust, they can seek to accomplish their own policy-making objectives with the groups' support. This avenue is a strategy to potentially utilize if an administrator lacks support from leadership (Acquino, 2019).

Policy

Policy is a "way of management" or a "study or practice of government; good government" (Online Etymology Dictionary, n.d.-b). Policy is a strict set of practices or procedures to mandate actions. Simplistically, policy sets the rules, and guidance explains the rules. This understanding is in contrast to Rockwood's (1982) claim that "policies are often considered to be guidelines for decisions" (p. 211). For this study, policy will refer to a strict set of practices or procedures.

The Tennessee Department of Environment & Conservation (2020b) distinguishes between policy and guidance—a non-binding explanatory statement providing advice on compliance. Policy is specified as internal to the agency. Of the eight states bordering Tennessee, the corresponding state environmental departments vary in their online policy publication. Only North Carolina (North Carolina Environmental Quality, 2020) and Virginia (Virginia Department of Environmental Quality, 2020) discuss policy on their departmental website; though Arkansas Energy & Environment (2020) does have a Policy & Planning Branch, its site does not elaborate on policy. In contrast to Tennessee, North Carolina considers policy to assist the public, along with regulated entities. Virginia simply differentiates laws, regulations, and policies without definitions. The remaining five states reference similar terms, but not policy: the Alabama Department of Environmental Management (2020) discusses regulations and laws; Georgia's Environmental Protection Division (2020) matches rules with their corresponding laws; the Kentucky General Assembly (2020) links to regulations, statutes, acts, and the state constitution; the Mississippi Department of Environmental Quality (2020) lists regulations; and the Missouri Department of Natural Resources (2020) defines statute and regulation/rule.

Policy in local park and recreation departments can prescribe an operational procedure, including making decisions or performing actions. Policy can also set benchmarks and overall results for administrators to accomplish. For example, King and Church (2017) noted the dualistic results of policies encouraging increases in non-traditional or lifestyle sport participation; although the policies may attract new participants, low engagement makes continued participation unsustainable.

Weible and Sabatier (2007) describe a policy subsystem involving numerous participants, including federal agencies, state departments, regional agencies, local governments, and additional stakeholder groups. Sabatier (2007) offers the following definition: "In the process of public policy-making, problems are conceptualized and brought to government for solution; governmental institutions formulate alternatives and select policy solutions; and those solutions get implemented, evaluated, and revised" (p. 3). Elected officials, through legislation or influence, can set policy. The department's park board (this study used the term park board to refer to a park and recreation department's formal group of advisors—similar to a foundation's board of directors, this group is sometimes referred to as a park commission) can set or influence policy. To drive policy change, Kingdon (1995) describes the importance of policy entrepreneurs, or individuals with the expertise, connections, and persistence to invest present resources for future returns. Researchers document the positive impact of policy entrepreneurs on recreation settings, including a coastal management project (Aukes et al., 2018) and a national park (Frisch & Wakelee, 2011).

Administrators in the department can set policy but are also primarily involved at the level of policy implementation. This study agreed with Rockwood's (1982) assertion of the execution's wild variability regarding implementing policy. Administrators must operationalize policy into sustainable operations to achieve desired outcomes (Selin, 2017). Unwritten policies can be followed even with the lack of formal proclamation. Finally, some administrators' actions directly contradict policy statements. Leone et al. (2015) note staff members may lack the skills required to implement new policies, and organizational review may be required to fill gaps.

Policy Framework

A federal policy statement on land acquisition will probably look quite different from the department policy on using the photocopier due to the policy framework. A framework is a support structure. When applied to policy, the policy framework can be considered a template grounded in administrative law and federal, state, and local ordinances. Administrators must be aware of and comply with all levels of policy directives. Recent research examples include: the Americans with Disabilities Act and beachgoers' access (Lee, Kim, et al., 2020); the National Park Service's Director's Order 16B and goals of increased diversity and inclusion in staffing and programs offered (Schultz et al., 2019); and the frequency of local government policy adoption regarding aging adults (Keyes & Benavides, 2017).

When administrators want to create policy, they can use the framework template to make sure they include all the necessary components. Common items in a policy framework can include: the title of the policy and some type of identifier for cataloging purposes; who authorizes the policy; the effective dates of the policy; the purpose, definition, and components of the policy; the requirements of the policy; potentially some examples; and contact information for questions regarding the policy. Documentation of policy is paramount, as it highlights the importance, or lack thereof, a park and recreation department places on policies and initiatives (Leone et al., 2015).

Sustainability Policy

For this study, sustainability policy will refer to a strict set of practices or procedures regarding sustainability issues. Manning's (1999) assertion that outdoor recreation planning and management considerations encompass the managerial environment, social environment, and natural environment echoes foundational sustainability literature. Sustainability comprises three

pillars: economic (e.g., goods and services, infrastructure, sustainable growth); social (e.g., community engagement, cultural inclusion); and environmental (e.g., energy, natural resources, waste). This definition adheres to Quental et al.'s (2011) assertion of a shift in sustainability goals from pollution and natural resources "to a more balanced position that puts human and social development…at the center" (p. 27). Park and recreation departments can be an integral part of solving ecological problems in municipalities. Greening urban environments aid residents' mental and physical health, providing opportunities for recreation and environmental education (Csete & Horváth, 2012). However, in their study on stability and change in city policy-making, Sapotichne et al. (2013) note the "vacillation between long stretches of under-responding to various pressures and demands, punctuated by abrupt over-responses" (p. 270).

Clark et al. (1991) noted the difficulty some agencies have transitioning from traditional values and management to developing policies focusing on sustainable recreation. This notion of traditional culture is later supported in a study on National Park Service staff member perceptions of racial and ethnic diversity within park visitors (Santucci et al., 2014); participants noted a lack of both policy and support for diversity and inclusion. However, there are avenues to change departmental culture through policy. In a study by Leone et al. (2015), the director of recreation cited the city's "policy to include senior managers of all departments on planning steering committees. And while including other departments in planning efforts did not translate to full support all the time, there was a cooperative relationship" (p. 62). Additionally, traditional cultures within departments can change by experimenting with technology advancements, such as online registration for programs and services in municipal park and recreation facilities (Moon, 2002).

Heuristic Model

A heuristic device is "a tool used to guide investigation" (Cairney, 2020, p. 24). Therefore, a heuristic model is a conceptual model used to help administrators choose a course of action. In the absence of information, a heuristic model can provide an acceptable solution, which contrasts with finding the perfect solution due to having all the information available, a notion rarely possible for administrators. Weible et al. (2012) contend "heuristics succeed by allocating our attention efficiently. Heuristics fail when individuals misallocate their attention and incorrectly interpret pertinent information related to their goals" (p. 5).

Dividing the policy-making process into stages or sub-processes denotes a stage heuristic (Zahariadis, 2007). The stages heuristic has detractors (Sabatier, 1991, 2007), claiming outdatedness and not being a causal theory, and proponents (deLeon & Martell, 2006), noting the approach's design "to feature different stages of the policy process, highlighting their distinct functions and features, ranging from Policy Initiation to Policy Termination, and provide the necessary guidelines" (p. 33). Instead of a generic issue to work through the model, as seen in Figure 2, this study focused on a recent occurrence: how park and recreation administrators could have created policy in the beginning stages of a global pandemic.

A global pandemic involves all three components of sustainability. With people staying home, staffing of facilities is affected, as well as revenue, due to a sharp decline in visitor entrance fees. In addition to the parks and recreation facilities, a lack of visitors will also negatively affect the economic sustainability of the surrounding area (Sims et al., 2004). Community member reactions run the gamut between fear of contracting the illness in open facilities to anger or frustration that facilities are closed to prevent the spread of illness. Parks serve as a primary supplier of physical activity opportunities (Buchner & Gobster, 2007;

Cheever, 2011; Cohen et al., 2007; Leporelli & Santi, 2019), so closing facilities would disrupt many community members' habits and potentially health (Lemieux et al., 2016). Finally, natural spaces may change due to the absence or severe limitation of human activity. Energy usage, water usage, and waste all decline, further impacting the environment.

Rockwood's (1982) insight on policy-making informs the heuristic model's construction. In the beginning stages of a pandemic, administrators must begin to formulate policy with little verifiable information. Even the most trusted news sources deliver reports based on small samples. Lack of information increases susceptibility to make mistakes when assessing complex environmental problems, so administrators may lean toward risk-averse policy options with less severe harm implications (Zajchowski et al., 2018). Rockwood (1982) explains that elected officials, boards, or administrators create policy. There are no federal, state, or local legislative directives at this early stage, though administrators can choose to wait for possible legislation to be enacted. Administrators can look to the park board to make policy. However, as appointed board members can typically be unaware of departmental daily operations and procedures (Hurd & McLean, 2004), board-driven policy is probably more suited for large-scale, visionary type planning. Finally, administrators can make decisions based on personal knowledge and experience or consult with government officials, the park board, community members, or even academic researchers.

Though collaboration between parks and recreation departments and stakeholders is needed (Cheever, 2011; Jamal & Stronza, 2009) and beneficial (Schild, 2019), there is likely not enough time to set up any formal collaborative sessions in the midst of a pandemic. Even in less time-sensitive scenarios, Bricker et al. (2010) found only 50% of forest service managers "felt there was good enough communication among parties involved in the policy and decision-

making processes surrounding recreation" (p. 41). In short, for this hypothetical example, administrators are responsible for creating policy regarding a pandemic.

Even though time is short, planning is the necessary first step (Gebhardt & Eagles, 2014) in the policy-making process during a pandemic. With no time for formal collaboration efforts, administrators should consider stakeholders' motivations and viewpoints when vetting policy options (Leung et al., 2013). In addition to stakeholder motivations and viewpoints, "policy makers at the community level should be prepared to scrutinize sport and recreation development in regards to both positive and negative outcomes for their community" (Rich et al., 2015, p. 408). Any policy considered should be created by factoring in potential implementation issues. Researchers claim an "implementation crisis" (Knight et al., 2006; Prendergast et al., 1999; Winter et al., 2020) exists when the science is available for what to do, but few documented applications for how to do it. If employees must stay home, it critically impedes staff monitoring of facility closures. Communication of policy with staff and users is vital for any chance of successful implementation. Regnerus et al. (2007) found one of the main reasons for problematic implementation is lack of knowledge. As such, any new policy requires clear, direct messaging to be successfully adopted.

With new information daily, policy assessment becomes critical. Manning (2011a) points to the importance of outdoor recreation indicators: in addition to providing a monitoring focus (Choi & Turk, 2011), indicators reveal current conditions, trends, and the effectiveness of policy decisions. Current conditions, combined with administrators' historical perspective and knowledge of forecasted trends, help inform decisions (Cordell, 2012). Phillips and Budruk (2011) claim the existence of indicators is not enough, however. Administrators must integrate the indicator-driven data into departmental decision-making and policy processes. After an

assessment, the newly implemented policy may be amended and reassessed in a continuous cycle (Harper, 2009; Hunt & Brooks, 1983). If the assessment reveals overly adverse outcomes, administrators may discard the policy altogether, replacing it with a new policy based on updated evidence.

Research Informing the Model

As a researcher at a public, state institution, focusing this study on state, county, and city parks and recreation departments, public entities overlap. Even with this overlap, it is uncertain how often or to what degree practitioners utilize research published in academia. Selin et al. (2020) contend "action-oriented research in this arena is informing policymakers" (p. 206). In her study on countryside recreation, Hougie (2010) calls for increased engagement between practitioners and scholars for better policy formation. Local government often surveys its citizens to gain feedback on the satisfaction levels with the public services offered. Kelly and Swindell (2003) note scholars and practitioners rarely use citizen survey results to guide policy due to questions of validity; however, Licari et al. (2005) found citizen evaluations to be accurate measures of park conditions. Most research on outdoor recreation is intended for academic purposes and written in a style foreign to many practitioners (Cottrell & Cottrell, 1998). This researcher intends to disseminate this study to practitioners in a suitable style to help them in their policy-making efforts.

This study can be an impetus for the examination and self-assessment of departmental policy-making processes, implementation, and assessment. The amount of departmental policy created by elected officials through legislation versus the park board versus the administrators themselves can be assessed. The surrounding communities' influence on policy can be measured. Administrators may take a passive stance and wait for community members to come

forward with any issues. Alternatively, administrators may actively solicit the local communities' influence, seeking to co-produce aspects of design, management, and programming (Stratton, 2020). This study can also show when the media and special interest groups most heavily influence administrators. Finally, the study can examine when administrators implement policy to the letter of the law, or when they are flexible and use discretionary power.

This study's central question focuses on the extent sustainability plays a role in policy-making decisions. Is sustainability a factor of policy-making due to its legislation or due to the administrators' motivations and objectives? Perhaps, as Rockwood (1982) notes, there are "mixed motives" (p. 219) on the various aspects of sustainability.

Statement of the Problem

Many people use outdoor recreation to relax, have fun, or reap health benefits. However, over time, outdoor recreation can deleteriously affect the environment. "Even as sports promote health, they can also degrade the environment upon which good health depends" (Schmidt, 2006, p. A286). The more someone takes a particular route, the more a path forms, damaging the environment. However, if the environment is protected by restricting all use, how can people appreciate the natural environment enough to want to protect it? Little to no research has been done to determine if park and recreation administrators struggle with this dilemma and if it affects their policy-making decisions.

Purpose of the Study

This study explored the decision-making process of administrators in parks and recreation departments in Tennessee. Sport and recreation managers must be mindful of industry practices as a whole and organizational practices specifically (Casper & Pfahl, 2015). The

purpose of this study was to assess the extent to which economic, environmental, and social sustainability concerns factor into state and local park and recreation department administrators' decisions concerning outdoor recreation and outdoor recreational facilities. This study centered on the intersection of recreation and the environment. However, it was specific to recreational sport. Additionally, since recreational sport managers are tasked with attracting users to their facilities, an aspect of tourism was included as well.

Significance of the Study

State and local park and recreation administrators have decision-making power about the main goals and direction of the facilities in which they are in charge. As Russell (2013) notes, public agencies have "the power to secure, hold, protect, and open for use the natural resources upon which much of our leisure depends" (p. 259). With the current industry emphasis on environmental concerns, administrators must balance user activity versus the potential harm to the environment the activity generates. Oversized public swimming pools use large amounts of chemicals to keep the water clear. Municipal golf courses, and golf in general, have historically had a bad reputation for damage to the environment (Millington & Wilson, 2015), even if recent studies show industry practices have become much cleaner (Baris et al., 2010; Mackey et al., 2014). These are just two examples of the intersection of recreation and the environment.

Park and recreation administrators are responsible for many roles in the competitive, global industry of sport. One of the newer roles, following the trends in the culture, is to be aware of their facilities' impacts on the natural environment. Working with the community leaders and members can help administrators set priorities, plan their operations, execute and assess those plans, and potentially increase funding. Gathering input from their local

constituents can also help stem the industry trend of users going away from nature-based recreation.

Tapping into the strong bond between users and nature can be one strategy to increase participation. Educating the users, especially younger visitors, can encourage a lifelong commitment to conservation and environmentally responsible behaviors. Considering that any nature-based recreation will likely impact the environment in some way, administrators can help lessen those impacts. Learning about the environmental issues specific to their area is the first step. Then, managers can design environmentally sustainable programs that incentivize user participation. After educating themselves, administrators can use the programs to educate the users.

Conceptual Framework for the Study

This study utilizes Value-Belief-Norm (VBN) as its conceptual framework. Stern et al. (1999) devised VBN theory and then a theoretical framework (Stern, 2000) as a causal chain. The chain links a person's values through mediating beliefs and pro-environmental personal norms to environmentally significant behavior. For the purposes of this study, environmentally significant behavior focused on economic, social, and environmental sustainability policy-making decisions.

Overview of the Research Design

This study used a self-administered, online survey for data collection. A link to the survey was emailed to all park and recreation administrators designated as administrator, CEO, chairman, chief, commissioner, coordinator, director, leader, manager, park planner, ranger, senior advisor, specialist, superintendent, and supervisor at state parks and county or city park and recreation departments in cities throughout Tennessee.

Definition of Key Terms

Environment: the natural area within and around the recreational facility or site. For example, many counties have facilities listed as greenways or trails. The environment is the actual greenway or trail and its surrounding area within the boundaries of the site.

Environmentally Significant Behavior: policy decisions focused on economic, social, or environmental sustainability. In this study, environmentally significant behavior and pro-environmental behavior are used interchangeably.

Recreation: time spent away from labor or responsibility, attempting to restore and revive. Specific activities are not part of the definition, as they vary from person to person.

Outdoor recreation. Outdoor recreation is any outside activity involving physical exercise, leisure, or low-level competition. Coakley (2015) claims, "Recreational sports serving large numbers of people are less organized, less likely to have powerful supporters, and less able to give precise statements of their goals" (p. 443). Outdoor recreation is not professional sport, intercollegiate sport, nor scholastic sport. The focus was on activities typically found in state/county/city park and recreation outdoor facilities. The range of these activities is as long as it is varied.

Sustainability: encompasses economic, social, and environmental goals. However, much like the literature (Vaugeois et al., 2017), emphasis was placed in the following order: environmental sustainability; social sustainability; and economic sustainability.

Environmental Sustainability. Environmental sustainability is any practice to help manage the environment in and surrounding any parks and recreation department facility. Examples include: resource management; water quality and conservation; and wildlife and habitat management (Audubon International, n.d.).

Social sustainability. Social sustainability is "improving people's quality of life now and into the future in a just and equitable manner, while living within the limits of ecosystems" (Stratton, 2020, p. 38).

Economic sustainability. Economic sustainability is meeting today's economic needs without harming future economic needs. Long-term growth can be a goal, but not at the expense of environmental or social sustainability.

Chapter Two

Literature Review

Multiple sources were utilized in the preliminary search of literature pertaining to this study. Recreation, environment, and tourism were the initial search terms used but unsurprisingly yielded far too many results. Combinations of the terms were used next to whittle down the number of potential articles. The sources for this study were primarily found within the results of the combination of recreation and environment and tourism. Additionally, sources were found in the reference lists of the primary articles.

Recreation Administrators

Recreation in the public setting can take many forms. As Dixon et al. (2019) note, "The different types of sport structures create various management challenges including access, management of volunteers, financial viability, and conflicts over the mission and goals of the organization" (p. 141). As the sport management industry is global (Falt, 2006) and highly competitive (Ross et al., 2019), recreational sport administrators must have strong competencies in management and business, as well as sport programming and theory (Barcelona & Ross, 2004; Parr & Lashua, 2004). On the job, Zimmerman and Allen (2009) found managers tend to conform to one of two roles: efficient, proactive administrators; or balancers of management and social equity.

Almost all recreational sport administrators at public facilities hold an undergraduate degree, with many earning a master's degree (Ross et al., 2019). One avenue for prospective recreational sport administrators to stand out among their peers is with experiential learning through cocurricular clubs (Hardin et al., 2013). When it comes to sustainability, according to

Graham et al. (2018), few academic programs currently offer dedicated sport sustainability courses, and they have no plans to add them.

With the increase in the coverage and awareness of environmental issues, sustainability in sport is an important topic of study. Administrators must be mindful of industry practices as a whole and organizational practices specifically (Casper & Pfahl, 2015) to combat a growing problem: the natural environment is deteriorating, and it is harming outdoor recreation. As Etzion (2007) notes, "The 'needs' of the environment are never represented directly by the natural environment itself but rather by different groups and collective entities, each with its own agenda and belief system" (p. 650). Implementation of any environmental practices can be constrained by financial, human resource, and temporal components. Administrators must balance their own environmental ideologies with the guiding operational boundaries imposed on them (Hums et al., 1999).

Further, as many recreational facilities are community-based, additional factors must be managed. The local users of the facilities and services can have a deeper bond to their community and its environment, which can lead to a stronger sense of engagement (Light, 2002; Reid & Taylor, 2003). People want clean parks to use and appealing programs to participate in, and they will give their input into the planning process (Werner et al., 2018).

Researchers disagree about the current trend of users and nature-based recreation. Most contend a growing shift away from nature experiences (Kareiva, 2008; Pergams & Zaradic, 2008). However, Cordell (2012) contends that while traditional recreation may be decreasing, newer recreational activities, such as wildlife watching and photography, are increasing. Factoring in the community's input can help recreational sport managers reduce participants' leisure abandonment (Lovelock et al., 2016). This is especially true for groups with a negative

stereotype (McCormack & Clayton, 2017), such as skateboarders, or marginalized groups (Ghimire et al., 2014), such as those from a lower socio-economic class, who perceive more barriers to recreation. However, specialized groups, such as advanced anglers, tend to have strong preferences as well (Oh & Ditton, 2006).

Lovelock et al. (2019) found that enjoyment and opportunities for involvement are strong influencers of users' commitment to recreation. Recreational sport benefits psychological well-being (Chatzisarantis & Hagger, 2007), and public agencies have "the power to secure, hold, protect, and open for use the natural resources upon which much of our leisure depends" (Russell, 2013, p. 259). This responsibility resonated through President Obama's America's Great Outdoors Initiative (Council, 2012) as well. Of course, administrators can also get involved and offer their input in the community's planning and activities (Roth, 2018b). This can, in turn, help with possible attempts to secure funding (Simpson, 2019).

Conservation

There is a debate over the best way to conserve our natural environment: to prohibit humans from the area, allowing nature to return to a wild state; or to restrict our interaction with nature, but allow us to see, and connect to, that which we wish to protect (Cronon, 1996). The key to humans becoming a positive force is establishing that connection between people and the natural environment (Krasny & Tidball, 2015; Minteer & Manning, 2003). Robinson (TEDxTalks, 2013) argues that connection can be delivered through recreation, fostering within the participants a desire for conservation. This argument is supported by a study linking higher levels of conservation behaviors to hunters and birdwatchers, as opposed to non-nature-based participants (Cooper et al., 2015).

Many studies focused on one specific site or area to evaluate (Collins, 2011; Dhami, 2013; Khoshtaria & Chachava, 2017; Rangel et al., 2015; Sanchez, 2018). Other researchers decided to combine sites, locations, or approaches for their studies. Sumanapala and Wolf (2019) conclude that an interdisciplinary approach is needed to bridge environmental conservation and visitor needs. Used in conjunction, environmental science and social science methods may be the best approach going forward. Du et al. (2015) encourage studies using a combination of area-oriented and process-oriented approaches. Newsome et al. (2016) showed when managers work with user groups as stakeholders in planning and policy-making, damaging environmental impacts were reduced.

Administrators must factor in their facilities' impact upon the surrounding environment, including habitat destruction, pollution, and animal harassment (Leung et al., 2008). As recreation can encourage health for its participants, it can also cause harm to its environment (Schmidt, 2006). Carmichael (2001) found most sustainability literature focuses on the "physical rather than the human environment" (p. 221). Ample studies exist demonstrating the deleterious effects of outdoor recreational sport (Havlick et al., 2016; Pickering et al., 2010; Steven et al., 2011). Liddle (1997) points out one certainty: recreational environments will see the number of living species decrease over time. However, ignoring social sustainability in favor of ecology and economics is questionable (Payne et al., 2008).

Missing from the literature is how state and local park and recreation administrators factor in environmental sustainability issues into their decision-making. While there are numerous articles covering recreation, environmental sustainability, and sustainable tourism, the decision-making process of administrators is under-researched. This study aimed to help fill this gap in the literature.

Sustainable Tourism

When utilizing sustainability to achieve a competitive advantage, eco-friendliness is a necessity (Majumdar, 2020), including the balance of the three pillars (Stankova, 2016). In 2005, the United Nations World Tourism Organization (UNEP and UNWTO) defined sustainable tourism as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities" (p. 11). However, tourism's growth is outpacing sustainability practice gains in effort and efficiency (Hall, 2013; Hall, 2019), which could substantiate Sharply's (2000) contention that" 'true' sustainable development is unachievable" (p. 14).

Like sustainability in general, sustainable tourism is divided into economic, social, and environmental components (Bramwell et al., 2017; Ruhanen et al., 2015; Swarbrooke, 1999). From its earlier conceptualization of sustainability as a possession—it is sustainable, or it is not sustainable—sustainable tourism, Clarke (1997) notes, has evolved to be seen as a goal to achieve. Regarding strategies related to environmental sustainability and tourism, much of the literature focuses on the hotel industry (Bohdanowicz, 2006; Chan et al., 2014; Kim et al., 2016; Stabler & Goodall, 1997), leaving a gap in the literature concerning sustainable tourism and recreation. One strategy recreational sport administrators can borrow from the hospitality industry is to design programs to motivate user participation. On their own, users may not be incentivized to adopt green practices, as they may not increase satisfaction directly (Kim et al., 2016).

Teerakapibal (2016) notes sustainable tourism's impact on a site's economy as twofold: first, when visitors come to experience the site, they form a preference for the local products and will push for exports in order to continue to consume these products after the visit; additionally,

exporting a site's products can be used as an invitation to visit and experience the products at the source. However, capitalizing on this can be a difficult task for a park and recreation administrator. Even if a tourist can experience and thoroughly enjoy a local park's hiking trail, the trail cannot be exported. However, pictures posted on social media or through targeted marketing campaigns can entice tourists to travel to the site and experience the trail firsthand.

One factor in sustainable tourism is government-enacted policy. As sustainability is seen as a social good, de Lange and Dodds (2017) contend that government must be involved. Bramwell and Lane (2010) assert that legislators need to eschew short-term politics in favor of long-term objectives and sustainable initiatives. However, government policy on sustainable tourism has less of an impact on the adoption of sustainability practices than other factors, including collaboration between tourism firms, employee culture, technology, and support from top management (Islam et al., 2020; Ruhanen, 2013). In addition to collaborating, administrators may choose to align their services and facilities to complement other local sites' offerings to raise the overall area's competitiveness (Tsai et al., 2009).

Education

Another aspect helping minimize the harmful ecological impacts, potentially incorporating social sustainability, is educating consumers. People often go to outdoor recreation sites to escape. Administrators have to balance the freedom the users are looking for with the impacts their actions cause. Even when exposed to educational programs on environmental impacts, "some users will opt for freedom even when they know their actions have negative ecological consequences" (Ryan, 2015, p. 35).

While some studies of programs meant to educate visitors on their environmental impacts and ways to avoid or lessen them have evidence supporting their effectiveness (Camp & Fraser,

2012; Rangel et al., 2015), other studies show evidence that such programs are ineffective (Boon et al., 2008; Ryan, 2015). Overall, Lee (2011) suggests a visitor's environmentally responsible behavior is impacted by a combination of "place attachment, recreation involvement, and conservation commitment" (p. 911). One way to understand this combination as it relates to the environmentally responsible behavior of a site's visitors is to assess their views (Lee et al., 2013), which will help in the management of and planning for the facility.

However, there is literature covering strategies administrators can employ to lessen the environmental impacts of recreational facilities and programs. The first strategy is to simply become better educated about the prominent environmental issues in their area (Casper et al., 2012). "Share knowledge and experience; debate about best practices; unite the efforts of all the stakeholders around joint initiatives; develop solutions to meet environmental challenges; and ensure sustainable, ethical and responsible sport" (Chinese Olympic, 2009). Although this message was directed to an Olympic audience, the tactics easily apply to park and recreation administrators as well.

One way park and recreation administrators can attempt to educate consumers is to pursue a certification. Many are familiar with Leadership in Energy and Environmental Design, or LEED, when connecting sustainability to facilities. LEED is a building certification based on ratings in categories such as energy performance, waste management, rainfall events, indoor air quality, water use, and alternative transportation (USGBC, n.d.a). The United States Green Building Council claims LEED "is the most widely used green building rating system in the world" (USGBC, n.d.b, para. 1). However, LEED is concerned with buildings and structures; the Sustainable SITES Initiative is a similar program for the certification of outdoor landscapes. As this study focuses on outdoor recreation, SITES would be more appropriate, though less

known. Park and recreation administrators can use SITES in conjunction with LEED to cover outdoor and indoor facilities. Steiner et al. (2013) write SITES "establishes consistent standards across the US but also adjusts its standards to regional variations in climate, soils, and plant species" (p. 360). Administrators can pursue sustainability certifications for many reasons, including attracting visitors. However, Tasci (2017) found certificates are not a proven method to increase consumer awareness and attention.

Lee (2013) found that community attachment and involvement are critical to factors to the support level for sustainable tourism development. To increase involvement, administrators should seek out community input for planning (Kong et al., 2015; Voumard, 2019), developing, and managing park and recreation facilities. This input can identify the concerns of stakeholders, though administrators may have to negotiate the resolution of competing interests from different stakeholder groups (Byrd et al., 2008; Hultman & Säwe, 2016). Individual member attitudes are not always homogenous within stakeholder groups, making matters more difficult (Hardy & Pearson, 2018). Lack of coordination between stakeholders and an absence of government incentives are two significant barriers to sustainable tourism management (Yadav et al., 2018). However, with a collaborative approach to planning and implementation, administrators and stakeholders can reduce damaging activities (Newsome et al., 2016; Paunovic & Jovanovic, 2017).

Other factors to consider when planning and designing are the desires of future generations, not just the current ones (Chatkaewnapanon & Kelly, 2019). Keeping in mind the needs and goals of this range of stakeholders, formulating a clear vision for the future is imperative for administrators (Arbogast et al., 2020; Font et al., 2018; Heslinga et al., 2019; Waligo et al., 2013). One practical approach to educating users is to focus on children and their

experience in nature. Exposing children to nature and educating them about environmentally responsible behaviors leads to them growing into adults with greater environmental awareness (Asah et al., 2018). The authors state, "childhood-nature experiences have lifelong effects on environmental citizenship and commitment to nature-based activities" (p. 807). Additionally, Roth (2018a) echoes this sentiment in his review of out-of-school-time programs utilized by parks and recreation leaders. Attracting younger visitors allows administrators to educate not only the children but also the parents. Moreover, younger visitors could become consumers for life. The goal is for visitors to enjoy their experience, as Lovelock et al. (2019) found that "enjoyment and involvement opportunities are the most influential in outdoor recreation commitment" (p. 388).

Eagle et al. (2016) note sustainable tourism's minimal impact on human behavior, though Lee and Jan (2015) did find participation in outdoor, nature-based recreation influences values and attitude, which indirectly motivates environmentally responsible behaviors. Park and recreation administrators can include educational aspects in their sites' offerings so visitors can be exposed to sustainable practices (Leung et al., 2008; Tasci, 2017). When participants receive information about environmental problems, they are more likely to take protective actions and implement green practices (Chan et al., 2014). However, Kim et al. (2016) posit administrators need to design green programs with incentives that encourage guests to participate. For example, educational components can be embedded in an electronic scavenger hunt for visitors, potentially counteracting Pergams and Zaradic's (2006) concept of videophilia, or a "focus on sedentary activities involving electronic media" (p. 392).

Marketing and Promotion

To convey sustainability factors to visitors, park and recreation administrators must have an overall marketing perspective (Middleton & Hawkins, 1998). Marketing has been traditionally associated with only clients and customers, namely the four Ps of the marketing mix found in introductory marketing textbooks (Demoss & Nicholson, 2005). Some suggest Booms and Bitner's (1981) seven P mix is more suitable for service industries (Goi, 2009; Gordon, 2012).

In 2007 the American Marketing Association redefined marketing to include societal issues, including sustainability (Pomering et al., 2011). Lansing and De Vries (2007) note the debate persists, however, over sustainable tourism's status as an ethical alternative or a marketing ploy. Nevertheless, Pulido-Fernández et al. (2015) note, "an effective marketing and communication program about sustainable tourism is … essential for economic success" (p. 47).

Some sustainable tourism marketers are practicing greenhushing, or "the deliberate withholding, from customers and stakeholders, of information about the sustainability practices that they employ" (Font et al., 2017, p. 1007). While this phenomenon is new, many marketers continue to be accused of the opposite tactic, greenwashing, or artificially enhancing a site's ecological image (Parguel et al., 2015; Smith & Font, 2014). In fact, it was the hospitality industry that initially inspired the term's creation. Coined by botanist Jay Westerveld (Motavalli, 2011) after reading a card about reusing towels at a hotel, greenwashing denotes the large gap between what companies claim they are doing to protect the environment and how detrimental their practices actually are. Schmuck et al. (2018) note that vague claims do not harm consumer opinions of companies as severely as false claims. The authors encourage

initiatives, including smartphone apps, to help educate consumers on identifying misleading claims.

As long as administrators avoid greenwashing, images can be essential elements of a marketing strategy, especially when sustainability is communicated in an emotional way (Wehrli et al., 2017). Images can be powerful tools to evoke emotions, and administrators would be wise to spend time and effort planning, capturing, and disseminating the emotions they wish to convey in their images.

Oh and Ditton (2006) found recreation specialization to be an indicator of visitors' conservation attitudes and behaviors. Furthermore, on the supply side, Sánchez and López (2016) found that specialization is the most significant strategy to gain a competitive advantage in tourism destinations. An example from a Tennessee State Park golf course highlights this approach. Paul Carter, the superintendent of Bear Trace at Harrison Bay, has won multiple awards for environmental stewardship on his golf course. Although he is confident in the quality of the golf course conditions and playability, he understands and appreciates that most of his colleagues know him for his environmental programs, including an on-course eagle cam (Pace, 2018). Specialization can also be utilized to aid selective target marketing of user groups and past visitors (Dolnicar & Leisch, 2008).

Although the best strategies to directly affect tourism competitive advantages are through entrepreneurial attitudes (Pato & Kastenholz, 2017) and marketing innovations (Smolović et al., 2018), one way to convey a site's specialization in today's world is through social media. Social media can act as an extension of word of mouth promotion, which was found to have the most substantial effect on tourists' destination intentions by Mohaidin et al. (2017). Considerably cheaper and faster to deliver, social media can be a powerful tool to highlight specialization and

emotion. As seen in Figure 3, Bear Trace at Harrison Bay golf course uses social media to convey its specialization in environmental stewardship by evoking emotions.

Value-Belief-Norm Theory

Stern et al. (1999) devised the Value-Belief-Norm (VBN) theory and shortly after that developed a theoretical framework to study "environmentally significant behavior" (Stern, 2000, p. 408). The framework directly connects a person's values to pro-environmental personal norms through mediating beliefs. Values are categorized as altruistic, egoistic, or biospheric. The framework sequences beliefs from an ecological worldview first to an awareness of consequences, then to an ascription of responsibility. Finally, pro-environmental personal norms compel a person to environmentally significant behavior. In this study, environmentally significant behavior was studied concerning economic, social, and environmental sustainability policy-making decisions.

Stern incorporated other authors' work in creating his VBN framework. First, the *theory of value contents and structure* (Schwartz, 1994) distinguishes 10 types of values by their motivational goals. Stern uses Schwartz's value theory to identify and define three specific values: altruistic, or concern for others; egoistic, or concern for self; and biospheric, or concern for species and habitats apart from humanity.

Next, Stern uses Dunlap et al.'s (1992) new ecological paradigm (NEP) to measure a person's beliefs about human actions and their ramifications on the natural environment. The NEP was established in 1978 by Dunlap and Van Liere as the new environmental paradigm. It was revised in 1992 by Dunlap and his colleagues and changed to the new ecological paradigm. Finally, in 2000, Dunlap et al. formally revised the NEP again. Dunlap (2008) notes this iteration is the version most commonly used in current research "as a measure of environmental

beliefs, which I believe is the most accurate interpretation, although *ecological worldview* is my personal preference" (p. 10). In the VBN framework, beliefs are expanded from the NEP to include awareness of adverse consequences threatening the original values and ascription of responsibility. Ascription of responsibility is the recognition that a person's actions could elevate or mitigate those adverse consequences.

Finally, utilizing an earlier work of Schwartz (1977), Stern uses *norm activation theory* to help explain how a person's self-expectations lead to an obligation to act in support of the environment; essentially, anticipated pride or guilt guides a person's behavior. Stern's VBN theory generalizes Schwartz's norm activation theory by "expanding the range of valued objects to be given theoretical consideration" (Stern et al., 1999, p. 83). In other words, Schwartz's (1977) theory posits behavior is affected by personal moral norms instead of social norms. Personal moral decisions compel an individual to act because motivations are linked to feelings of pride when conforming or guilt when violating one's personal norms. Stern's theory generalizes moral decisions into environmentally significant decisions or, more specifically, pro-environmental decisions.

In Oreg and Katz-Gerro's (2006) VBN theory description, "pro-environmental behaviors stem from acceptance of particular personal values, from beliefs that things important to those values are under threat, and from beliefs that actions initiated by the individual can help alleviate the threat and restore the values" (p. 464). The VBN framework acts as a causal chain, with constructs moving from general to specific: people's values help shape their beliefs; those beliefs impact their personal norms; and personal norms activate environmentally significant behaviors. Steg et al. (2005) explain that "each variable in the causal chain is related to the next variable,

and may also be directly related to variables further down the chain" (p. 417). A visualization of the VBN framework as a causal chain is presented in in Figure 4.

Values

As the first links in the VBN framework's causal chain, values predict environmentally responsible behavior. Stern (2000) adapted Schwartz's (1994) theory of value contents and structure to organize values into three classes related to ecological worldview: altruistic; egoistic; and biospheric. Values, often formed early in life, are considered general in scope and stable over time (Stern et al., 1995). They transcend specific situations, helping orient people in large-scale settings. For example, values help form what people view as good or bad, desirable or undesirable. In VBN theory, values are concerned with pro-environmental intentions regarding environmentally significant behaviors.

Altruistic Value

Altruistic value denotes a person's self-perception concerning the well-being of others. It is a comprehensive view of society, rather than individualistic. Stern et al. (1993) assert altruistic value and concern for the welfare of others is the foundation of environmentally responsible behavior. Individuals with strong altruistic values base decisions to act on perceived benefits and costs for others.

Egoistic Value

Egoistic value denotes a person's quest for wealth, power, and success. Self-enhancement goals drive a person with egoistic values to maximize individual outcomes over others. Individuals with strong egoistic values base decisions to act on perceived benefits and costs for themselves. In this construct, environmentally significant actions will not occur when personal costs outweigh environmental benefits.

Biospheric Value

Biospheric value denotes a person's interest in the environment; therefore, it is ecocentric. A person with biospheric values focuses on environmental rather than humanistic pursuits (de Groot & Steg, 2008). In other words, biospheric values emphasize the natural environment and its nonhuman species. Individuals with strong biospheric values base decisions to act on perceived benefits and costs for the environment and other species.

Beliefs

Beliefs are the subsequent links in the causal chain predicting environmentally responsible behavior. Zinn et al. (1998) define belief as a judgment of what is appropriate in a given situation. Considered to be more specific but less stable than the antecedent values, beliefs are more focused ideas, viewpoints, or attitudes. The distinction between values and beliefs is important due to the causal chain nature of the framework. Beliefs allow people to assess the conformity of their behavior, which produces behavioral intentions. In the VBN framework, Stern (2000) divided beliefs into three constructs: ecological worldview; awareness of consequences; and ascription of responsibility.

Ecological Worldview.

Stern used Dunlap et al. 's (1992) New Ecological Paradigm (NEP) to measure the ecological worldview construct. Ecological worldview encompasses views on the relationship between humans and the environment. Stern et al. (1995) claim an individual's ecological worldview acts as a filter of information received concerning the natural environment.

Awareness of Consequences.

The ecological worldview filter allows people to become aware of the consequences of their actions. This awareness of consequences is the next step in the causal chain leading to a

change in behavior. Consequences can adversely affect others, self, or the ecosystem, which relates back to the value constructs. Awareness of consequences "is more specific than ecological worldview, and is often operationalized by asking respondents about specific environmental impacts in specific settings" (Wynveen et al., 2015 p. 86).

Ascription of Responsibility.

Awareness leads to acknowledging one's responsibility for environmental problems. The ascription of responsibility construct denotes an awareness that adverse environmental consequences can be mitigated by changing behavior. Ascription of responsibility is the mitigation; individuals believe they can act to reduce the threat of the consequences from the previous link in the causal chain.

Norms

Norms are standards of behavior, or why people do what they do. Values and beliefs are typically more stable and long-lasting than norms, which can change relatively quickly in comparison. The norms in VBN theory are personal norms, as opposed to social norms. Although others may affect personal norms, the theory contends that societal pressure is not the primary inducer of environmentally significant behavior. Instead, a responsibility to act consistently with personal values and beliefs leads to an internal pressure preceding environmentally responsible behavior. The theory predicts the stronger the pro-environmental behavior personal norms, the higher the likelihood of initiating environmentally responsible behaviors.

Personal norms underscore moral obligation, or an internalized standard of behavior. Norms reflect and influence attitudes toward specific actions. These attitudes lead to intentions, which finally lead to behavior. For VBN theory, personal norms are a moral obligation to

perform environmentally significant actions. Personal norms help park and recreation administrators judge behaviors as environmentally responsible or detrimental. Administrators' values focus their beliefs, which activate their personal norms to guide their behavior.

Environmentally Significant Behavior

Stern (2000) classified environmentally significant behavior into four groups: environmental activism, or remaining active in environmental organizations or demonstrations; nonactivist behaviors in the public sphere, or influencing public policy; private-sphere environmentalism, or personal behaviors at home; and other environmentally significant behaviors. In this last, vaguely titled category, Stern (2000) specifies the following example: "Individuals may significantly affect the environment through other behaviors, such as influencing the actions of organizations to which they belong" (p. 410). This study sought to explore this "other" category further by focusing on park and recreation department administrators' actions in their workplaces.

Adapted from a combination of Stern's (2000) framework and Ture and Ganesh's (2018) study of Indian manufacturing organizations, this study defined sustainability significant behavior as administrator actions intended to impact the economic, social, or environmental sustainability within the workplace. As such, environmentally significant behavior expanded to sustainability significant behavior in this study. Further, for analysis purposes, this study used pro-environmental behavior interchangeably with sustainability significant behavior. A detailed visualization of this study's VBN theoretical framework is presented in Figure 5.

Although Cho et al. (2013) found no singular theory to be a perfect predictor of environmentally significant behavior related to management, studies confirm the causal order of the VBN theory constructs from values to beliefs (Hansla et al., 2008) and of the overall

framework (Fornara et al., 2020; Steg et al., 2005). However, multiple recent studies demonstrate that values may not significantly predict behavior consistently (Han et al., 2017; Han et al., 2018; Landon et al., 2018). One explanation is that values are mediated by the beliefs and norms links further down the causal chain (Steg et al., 2005; Stern, 2000). Not surprisingly, people with altruistic and biospheric values are more likely to initiate environmentally significant behavior than those with egoistic values (de Groot & Steg, 2008). Using the VBN framework, researchers find that personal norms are significant predictors of behavioral intentions (Han et al., 2017; Han et al., 2018; Landon et al., 2018; Steg et al., 2005).

Stern contends VBN theory's strength is in studies of environmentally supportive attitudes. He also acknowledges weakness in the theory—personal norms can predict behavior only in the absence of significant costs or benefits to the behavior. In other words, attitudes matter when context is neutral. When relating VBN theory to sustainability, another weakness is the focus on environmentally responsible behavior. The environmental component's emphasis may come at the expense of the other two pillars of sustainability, economic and social (Oreg & Katz, 2006). One of the few studies attempting to address this gap is Megeirhi et al.'s (2020) assessment of Carthage residents' intentions regarding cultural heritage tourism. The authors made note of VBN studies' focus on the environment at the expense of the economic and social-cultural pillars. Results endorsed utilizing the VBN framework to help explain behavioral intentions supporting cultural heritage preservation and sustainable tourism.

VBN and Recreation

VBN theory began as an attempt to measure support for the pro-environmental movement. Consequently, most subsequent research continues to focus on human behavior and its relationship with the environment: recycling behavior (Aguilar-Luzón et al., 2012); consumer

behavior relating to drone food delivery services (Hwang et al., 2020); choosing modes of travel (Lind et al., 2015); funding for a suburban park (López-Mosquera & Sánchez, 2012); using smart energy systems (Van der Werff & Steg, 2016); visitors to marine protected areas (Wynveen et al., 2015); and local, organic food consumer behavior (Zepeda & Deal, 2009). However, VBN theory has not been widely used concerning sport in general and recreation specifically. In Casper and Phal's (2012) study on undergraduate sport management students, the authors used VBN theory to confirm personal norms' predictive power on a person's behavior. Additionally, the authors recommended the further exploring of stakeholder behavior expectations within the sport and recreation industry. Similar studies showed athletic departments' environmental efforts help fans replicate and change behavior at sporting events (Casper et al., 2017) and at home following a sponsored initiative (Casper et al., 2020). The gap in the literature studying recreation using the VBN framework continues through today.

As part of the framework, one non-activist behavior Stern (2000) lists is behaviors in organizations, or how people act or influence within organizations. This study attempted to follow VBN's causal chain model as it relates to park and recreation administrators across the three pillars of sustainability. There is limited research utilizing VBN theory to study the causal chain related to an individual's behavior within an organization or work setting (Andersson et al., 2005; Ture & Ganesh, 2018). With VBN theory focusing on personal norms related to individual behavior, how an organization influences employee behavior has been largely unexplored. This study focused on pro-environmental behavior in the workplace, where the real and potential economic, environmental, and social costs and benefits go to the organization, not the individual. As such, personal behavior preferences could be overridden by corporate culture.

Park and recreation department administrators' actions include policymaking and implementation. Kellison et al. (2017) found park users in the Appalachian Basin were concerned with fracking operations' disruption of park access and use. As the authors note, "Local, state, or federal land managers considering leasing public land for oil or gas exploration must work with policymakers and energy operators to mitigate both the actual and perceived impacts on park usage and recreational pursuits" (Kellison et al., 2017, p. 75). Another study on recreation and sustainable tourism shows administrators should maintain a site's ecological resources for positive recreation experiences in healthy natural settings (Lee & Jan, 2015). These positive recreation experiences lead to sustainable tourism development.

Administrators can also look to previous research highlighting studies outside of recreation. Walker and Mercado (2016) studied public assembly facility managers' consideration of stakeholders in decision processes. Results showed a higher consideration of economic values over community-centric principles. Park and recreation administrators concerned with sustainability must solicit stakeholder input and consider stakeholder opinions in planning and policymaking. Fornara et al. (2020) suggest agencies disseminate biospheric values in the community to help establish a moral obligation toward environmentally significant behavior. As values influence a person's moral obligation to act, administrators can seek to increase biospheric values in the surrounding community. In turn, this can improve community stakeholder support of environmentally significant initiatives. Ture and Ganesh (2018) extended the VBN framework to include organizational influences and found direct negative effects on information gathering and environmental advocacy behaviors. Administrators presiding over sites with a high level of corporate environmentalism can combat employee complacency in

those behaviors by establishing continuous improvement practices and promoting staff-generated proposal submissions.

Research outside of recreation can help park and recreation administrators regarding visitors as well. Trail and McCullough (2018) note how organizations typically have different segments of clientele, and "they need to interact and communicate with each segment differently" (p. 27). Administrators must know the various participant groups utilizing the facilities and sites, then strategically market each segment. Weaver (2012) found protected area visitors' support for unconventional but convenient actions leading to higher engagement and site enhancement. Park and recreation administrators can encourage visitors to engage in simple, low-risk activities requiring little time or other resources to accomplish.

Constraints

Although not typically a component of VBN theory, it may also be helpful to examine any perceived constraints to implementing pro-environmental behaviors, regardless of an administrator's values, beliefs, or norms. In leisure and recreation literature, the theme of constraints did not emerge until the 1980s (Jackson & Scott, 1999), beginning as "barriers to recreation participation" and changing to today's conventional "constraints to leisure" (p. 300). Even with the removal of participation from the theme name, much of the research focused on the participation-nonparticipation dichotomy (Nadirova & Jackson, 2000).

Crawford and Godbey (1987) describe constraints as barriers, defined as "any factor which intervenes between the preference for an activity and participation in it" (p. 120). The authors conceptualized three principal types of barriers: intrapersonal; interpersonal; and structural. Intrapersonal constraints limit a person's participation due to individual preferences and include anxiety, appropriateness, depression, perceived skill, and prior socialization

(Crawford & Godbey, 1987). For example, if administrators do not feel they have the skills to create a sustainability plan, they will not begin the process due to intrapersonal constraints. Next, interpersonal constraints limit a person's participation due to others' preferences and include a lack of interest from an individual's family or social circle (Crawford & Godbey, 1987). For example, if administrators perceive backlash from other administrators for pursuing a sustainability certification, they will not begin the process due to interpersonal constraints. Finally, structural constraints limit a person's participation due to a barrier between preference and participation and include finances, opportunity, time, and weather (Crawford & Godbey, 1987). For example, if administrators do not have the budget to install solar panels, they will not be installed.

In constraints to leisure literature, much of the early focus was entirely on structural constraints (Jackson, 2000). Jackson and Scott (1999) note researchers branching out to study preference formation, enjoyment derivation, facility choice, and specialization. In pro-environmental behavior literature, Guagnano et al. (1995) examined the relationship between internal attitudes and external constraints regarding recycling, while Tanner (1999) identified subjective and objective constraints inhibiting drivers from reducing their driving frequency. As all these examples show, the constraint research focuses almost exclusively on the user instead of the provider, or administrator.

Chapter Three

Materials and Methods

Survey Methodology

This study examined the extent to which economic, environmental, and social sustainability concerns factor into state and local park and recreation department administrators' decisions concerning outdoor recreation and outdoor recreational facilities. Creswell (2015) notes a survey's primary use is in quantitative, non-intervention research to describe trends for a population of people. Magee et al. (2013) support this notion, claiming surveys are appropriate tools to find the prevalence of participants' beliefs, opinions, or attitudes. Babbie (2010) considers survey research as "probably the best method available to the social researcher who is interested in collecting original data for describing a population too large to observe directly" (p. 254).

The central goal of surveys is to use a smaller sample to make valid and reliable inferences to a larger population (Baker et al., 2013; Creswell, 2015). Implementing a survey is the most suitable research design for the present study because it examines the factors that influence park and recreation administrators' decisions on sustainability policy.

Advantages of Survey Research

Babbie (2010) notes surveys can be especially effective when describing large population characteristics. Colton and Covert (2007) identify two advantages: surveys can help researchers explore relationships and examine attitudes and beliefs. Schutt (2009) highlights three advantages: versatility; efficiency; and generalizability. More specifically, researchers commonly cite the ability to gather large amounts of data quickly and cost-efficiently as significant advantages of using surveys in studies.

Data Accumulation.

Researchers utilizing surveys can collect large amounts of data in a relatively short time span compared to other research methods. Implementing a survey to a large sample is faster than a researcher's detailed observation of a population. Likewise, the personal interview process is time-consuming for each additional participant. Online options make delivery of the survey instrument especially time-efficient for larger samples. Creswell (2009) notes surveys' "economy of design and rapid turnaround in data collection" (p. 146). Once data is collected, cleaning quantitative survey data is much faster than transcribing qualitative interview responses.

Cost Efficiency.

Many researchers tout the low financial burden involved in studies employing surveys (Babbie, 2010; Creswell, 2012; Glaser, 2012; Rao, 2020; Smyth et al., 2010). This cost-effectiveness, especially in self-administered surveys, makes large samples more feasible for researchers (Babbie, 2010; Visser et al., 2000). Cost is also a factor when collecting data from a large sample. There are 56 state parks, county parks spread out over 95 counties, and city or local parks in numerous cities within Tennessee. Requests to participate in this study were emailed to all employees designated as administrators based on titles found on the parks' and departments' public websites. Titles consisted of administrator, CEO, chairman, chief, commissioner, coordinator, director, leader, manager, park planner, ranger, senior advisor, specialist, superintendent, and supervisor, with a total of 610 employees meeting the criteria. Evans and Mathur (2005) name having access to a good sample list as one of the conditions making online surveys most suitable. Collecting data from such a large sample through any other research method would incur considerably higher costs than a self-administered online survey design.

Flexibility.

Surveys can vary significantly in the number and types of questions asked, giving researchers considerable data analysis flexibility. Researchers can compound this flexibility in online survey distributions, potentially employing detailed graphics or multimedia options to explain or visually demonstrate complex concepts or questions. Additionally, it is easier to implement question randomization or automatic branching based on participant answers in online surveys. Weigold et al. (2013) found internet data collection methods generally equivalent to paper-and-pencil collection methods. Díaz de Rada and Dominguez-Álvarez (2014) found online surveys had "a low number of unanswered questions, more detailed answers to open questions, and longer answers" (p. 264) when compared to paper surveys. One area where surveys are not flexible is in asking the same questions of all participants. However, in terms of measurement purposes, this structural rigidity becomes a strength in standardized questionnaires (Babbie, 2010).

Honest Responses.

Online self-administered surveys offer participants a sense of greater anonymity. Fowler (2014) notes this is ideal when collecting sensitive information. Respondents may feel more at ease answering questions on delicate or controversial subjects, leading to more honest responses. Tourangeau and Yan (2007) found participants tend to edit their responses to avoid embarrassment in front of an interviewer or when trying to avert consequences from third parties. Although the topic of this study is not generally considered a sensitive issue, in-person interviews could have led more easily to social desirability bias, or participants answering according to a perceived workplace ideal.

Disadvantages of Survey Research

Survey research designs are not without their disadvantages, however. Most of the disadvantages stem from the creation of the instrument and sampling. Each question's relevance, wording, and placement must be tested and refined to reduce survey error. Ultimately, Schutt (2009) notes, "the 'best' survey design for any particular study will be determined by the study's unique features and goals rather than by any absolute standard of what the best survey design is" (p. 304).

Not the Right Questions.

Colton and Covert (2007) contend that surveys limit data acquisition per participant. Compared to personal interviews, where participants can give information the researcher did not ask about, survey answer options are limited. Closed-ended questions do not allow for participants to expand on their answers nor provide detail. Additionally, the questions and limited options are subject to misinterpretation, especially with self-administered surveys. Using validated, standardized questionnaires can diminish the likelihood of misinterpretation, but can lead to superficial coverage of complex subjects. Written to be suitable for all respondents, "standardized questionnaire items often represent the least common denominator in assessing people's attitudes, orientations, circumstances, and experiences" (Babbie, 2010, p. 287).

Question Wording.

Colton and Covert (2007) dispute the perception that surveys are more time and cost-effective than other research methods, explicitly noting the time it takes to ensure an "instrument produces reliable and trustworthy information" (p. 11). Developing a new instrument, pilot testing it, and analyzing each construct's reliability and validity requires substantial effort, time, and financial resources. However, this study utilized the strategy of incorporating some

questions already developed, tested, and validated in previous studies to decrease the time and costs required (Fowler, 2014).

Question Placement.

The most important question on the instrument is often the first question, as it can determine whether or not the participant completes the survey (Dillman, 2000). Although it is common to group similar topic questions together, Dorsten and Hotchkiss (2005) warn of response set error, or "the tendency to select the same answer to many questions when asked in a row, regardless of the question content or accuracy (validity) of the answers" (p. 194). Formatting an instrument into a matrix can exacerbate this issue, potentially leading participants to take the path of least resistance by checking off the same response down the entire line of questions.

Dishonest Responses.

Although self-administered surveys produce less social desirability bias on sensitive questions (Fowler, 2014), response authenticity may be lacking, even if unintentional. Krosnick (1999) notes respondents' tendency to select a response even if the response options do not include the best answer. Participants must simply confine their responses to the options offered instead of volunteering their true answers if no open-ended options are provided.

Respondents may also answer questions based on their perceptions of what they do instead of the genuine actions they take. As Babbie (2010) notes, "surveys cannot measure social action; they can only collect self-reports of recalled past action or prospective or hypothetical action" (p. 288). This study used the Value Belief Norm (VBN) framework to inform the instrument. Questions involving actual behaviors are included but limited, as the majority of the instrument examines participants' perceptions of their values, beliefs, and norms.

A final source of concern regarding honesty is respondent confidentiality on online surveys (Olsen et al., 2011). Participants may be leery of submitting responses, particularly on sensitive or polarizing issues, fearing their answers could be traced back to their computers. Although this study is not especially controversial, the instrument's consent form and instructions will cover the confidentiality measures taken to protect participants. As Stern et al. (2014) note, researchers need to integrate technological changes into survey methodology while adhering to effective surveying principles developed over decades of prior research.

Sampling.

For online surveys, the primary source of concern is coverage error (Baker, 2010). Coverage error denotes potential respondents not being reached for participation due to a lack of internet access. This study alleviated this concern by using the work email addresses listed on the departmental websites. Additionally, since 88% of smartphone owners use their phones to access email (Smith, 2015), online surveys delivered via email require designs utilizing a smaller screen space. Buskirk and Andrus (2014) found smartphone users complete online surveys faster than their computer-using counterparts, with no significant differences in missing item rates.

Choosing the Survey Method

In summary, factoring in advantages and disadvantages, this study utilized an online, self-administered survey for data collection. As a graduate student, the researcher has access to QuestionPro software to create the survey, a university email account to deliver the survey, and Statistical Package for the Social Sciences (SPSS) software to analyze the collected data. These factors significantly reduced costs, offered convenient distribution, and allowed for timely data collection and analysis, making a survey the most suitable option for this study.

Instrument Development

This study concentrated on sustainability behaviors, which encompass economic, social, and environmental goals. Stern (2000) established the Value Belief Norm (VBN) framework to study pro-environmental actions, and ensuing studies have continued that focus. As noted in the theoretical framework, the VBN framework acts as a causal chain, with constructs moving from general values to specific behaviors.

Following the standard title, introduction, and instructions for completing the instrument, the survey was administered in sections corresponding to the VBN framework. Section A covered values using the short form values scale Stern (2000) used for the overall VBN model. Section B encompassed general beliefs using, as Stern (2000) did, Dunlap et al.'s (2000) New Ecological Paradigm (NEP) scale. Section C questioned participants about specific pro-environmental behaviors developed specifically for this instrument to measure economic, environmental, and social sustainability policy implementation. Questions were formulated using typical pro-environmental behaviors (e.g. recycling), components typical to sustainability research (e.g. cultural education), as well as behaviors mentioned in previous VBN studies (e.g. composting). Finally, Section D asked demographic questions. By using the short form values scale and NEP, much of the survey instrument (27 of the 49 questions) utilized previously established, tested, and validated questions (see Appendix A).

Values

Stern et al. (1998) devised a shorter version of Schwartz's (1994) theory of value contents and structure. Then Stern (2000) used the short version to identify three specific values: altruistic, or concern for others; egoistic, or concern for self; and biospheric, or concern for

species and habitats apart from humanity. Multiple studies support the short version's reliability and validity (de Groot & Steg, 2008; Steg et al., 2014; van der Werff & Steg, 2016).

The short form value instrument makes up the first section of this study's VBN survey. Aligning with this study's focus on the three pillars of sustainability, altruistic value questions were intended to examine the social aspect of sustainability, and biospheric value questions were intended to examine the environmental aspect of sustainability. Only one of the egoistic value questions (Wealth--material possessions; money) focused on economics. To examine sustainability's economic aspect, the wealth item was supplemented with pro-environmental behavior questions focused on economic policy implementation.

Beliefs and Norms

In the VBN framework, Stern (2000) examined beliefs by measuring participants' ecological worldview, awareness of consequences, and ascription of responsibility. Dunlap and Van Liere established the New Environmental Paradigm in 1978, and Dunlap et al. (2000) revised it into the New Ecological Paradigm (NEP). While the original scale had its deficiencies, Anderson (2012) notes of the revised NEP, "no other instrument has been so extensively accepted as a measure of environmental world views" (pp. 261-262). In their meta-analysis of the NEP, Hawcroft and Milfont (2010) gave three recommendations when using the scale: provide explicit details regarding the use of the scale and its findings; continue using the 5-point Likert scale; and use all 15 NEP scale items. This study used the revised NEP to measure ecological worldview beliefs.

This study's initial instrument included a beliefs and norms section including sustainability's social and economic aspects, awareness of consequences, and ascription of responsibility. However, these sections increased the total number of questions significantly. In

an effort to reduce participant response-time burden and the likelihood of participants dropping out of the survey while in progress, these sections were deleted. By omitting these sections of untested, unproven questions, the final instrument was made up of two valid and reliable (Fornara et al., 2020; Hansla et al., 2008; Jakovcevic & Steg, 2013; Jansson et al., 2011; Steg et al., 2005) sections covering values and beliefs, one section of customized pro-environmental behaviors, and one section covering demographics.

Behaviors

Stern (2000) specifies behaviors in organizations, or how people act or influence within organizations, as non-activist behaviors within the framework. In this study, behavior questions examined how administrators act or influence outdoor recreation policy decisions within the department. The 13 specific behavior questions were written to measure economic, environmental, or social practices, relating back to the three pillars of sustainability. Participants were instructed to select their implementation level from "will never implement" to "already do implement."

Demographics

Demographic questions assess the personal characteristics of the participants, allowing researchers to describe participant groups. There is some disagreement as to where demographic questions should be placed in self-administered instruments. Although there is support to start the survey with demographic questions (Creswell, 2012), most dictate they be placed at the survey's concluding section (Babbie, 2010; Diem, 2004; Dobosh, 2018; Thayer-Hart et al., 2010). Demographic questions help researchers obtain a clear picture of respondents, potentially uncovering trends or patterns within the data.

Similar Instruments

Whitley et al. (2018) examined the sustainability behaviors of college students using the VBN framework. The study confirmed the importance of altruistic and biospheric values on a range of sustainability behaviors. However, the authors essentially used sustainability as a synonym for pro-environmental, following the established VBN framework. Their sustainability behaviors did not include economic or social aspects. This study of park and recreation administrators incorporated all three pillars of sustainability as constructs.

Kim et al. (2015) studied sustainability stewardship and consumer behavior in the textile and apparel industry using VBN theory. The authors framed sustainability stewardship in terms of corporate social responsibility (CSR) drives, or "corporations' responsible management policies in areas in which environmental and social concerns are relevant in order to support human well-being as well as that of ecological systems" (Kim et al., 2015, p. 251). They found CSR drives strengthen consumers' values, leading to sustainability practices. However, the authors did note the operational constraint on stewardship as a limitation to a more holistic approach to sustainability stewardship. Although the study does include the sustainability pillars, its focus is on consumers of apparel, whereas the current study concentrated on park and recreation department administrators.

Sampling

Instead of a census, which studies all members of a population, a survey solicits information from a sample, or a smaller portion of the population of interest (Scheuren, 2004). Ideally, researchers design studies using probability sampling to ensure each person within the population of interest has an equal chance of being selected as part of the sample and meets the

criteria to accurately represent the population. Krosnick (1999) notes, "representative sampling is essential to permit generalization from a sample to a population" (p. 539).

However, depending on the study's purpose, probability sampling is not always the best sampling method. As Kalton (2019) notes, one reason is the continuing trend of declining response rates and the increasing costs associated with surveys using probability sampling. This study will utilize a purposive, non-random sampling design, appropriate when researchers clearly define the sample frame through clear criteria (Skinner et al., 2015). As Hibberts et al. (2012) note, a "researcher uses purposive sampling when he or she knows the characteristics of the target population and then seeks out specific individuals who have those characteristics to include in the sample" (p. 67).

This study focused on Tennessee state and local park and recreation administrators with decision-making responsibilities regarding policy. An exhaustive search was conducted of all Tennessee state and local park and recreation department public website staff directories to compile the names and contact information of the administrators. The systematic process started by listing the 56 state parks and 95 counties within Tennessee. Each state park was entered into a popular web search engine combined with the term "staff directory;" each county was entered into a popular web search engine combined with the terms "park and recreation department" and "staff directory." Local and city park and recreation departments were listed in the results of each county search. When necessary, additional searches were performed based on the information gleaned from the original searches.

Decision-making responsibilities were determined by position title after listing all employees and their positions. Position titles typically associated with decision-making or supervision were deemed to fit the role of administrator. Selected titles consisted of

administrator, CEO, chairman, chief, commissioner, coordinator, director, leader, manager, park planner, ranger, senior advisor, specialist, superintendent, and supervisor, with a total of 610 potential respondents meeting the criteria. The sample is not random, as all administrators with the designated titles were sent the link to the survey instrument.

Although non-probability designs can lead to selection biases (Nusser & Larsen, 2009), including all decision-making administrators substantially limits this concern. Nonresponse can be a significant source of survey error associated with sampling, though there is increasing evidence it is not as problematic as once perceived (Krosnick, 1999; Nusser & Larsen, 2009). Fowler (2014) lists three causes of nonresponse: individuals who cannot be contacted; individuals who refuse to participate; and individuals who are unable to participate. To address the three causes, first, the contact information was collected from Tennessee state and local park and recreation department website directories, which should have provided the most up-to-date information possible. Next, initial requests to complete the survey were emailed to each individual meeting the sample criteria, followed by one reminder email. As participation was anonymous, reminder emails were sent to the entire sample after subtracting invalid addresses. Van Mol (2017) showed extra reminders, as long as they remain the same through the process, effectively increase response rates. Finally, typical reasons for being unable to complete a survey are illness, language barriers, or illiteracy (Fowler, 2014). These concerns are mitigated by this survey's flexibility in response time, focusing the study on Tennessee, with only a 6.6% non-English-speaking at-home population (United States Census Bureau, 2015), and the fact that 95% of park and recreation directors, assistant directors, or superintendents have an undergraduate degree at minimum (NRPA, 2019).

Similar Samples

Multiple studies similar to this one examine United States Forest Service employees and various aspects of climate change. Examples include studies on strategies for managers to incorporate initiatives (Laatsch & Ma, 2015), intra-agency communication flow (Laatsch & Ma, 2016), and manager perceptions of agency performance (Lemieux et al., 2013). Strategies, communication, and performance perceptions are all worthy subjects, though this study focused on the broader subject of sustainability instead of climate change specifically.

Bricker et al. (2010) explored USDA Forest Service managers' personal perceptions of sustainable recreation. Similar to the current study, Bricker et al.'s (2010) "study population was USDA FS managers in decision-making roles regarding recreation. The levels of responsibility were regional, forest, district, and location" (p. 39). Results showed managers place professional and personal importance on sustainable recreation. Additionally, administrators view sustainable recreation on managed lands as contributing to surrounding community residents' quality of life.

Selin (2017) analyzed the USDA Forest Service's sustainable recreation operationalization across the National Forest System. Results showed two distinct visions for managed recreation bifurcated by finances. While managing recreational programs on the regional level, the qualitative study showed administrators are focusing on the economic dimension of sustainability's economic, social, and environmental triple bottom line. Some administrators emphasize financially efficient programs in light of the financial constraints in the Forest Service. Conversely, other administrators call for investment in recreation employees to enhance the recreation program and increase visitor satisfaction. Results also suggest new types of recreation services will be established, based on external stakeholder preferences funded through "strategic business partnerships" and "public-private joint ventures" (Selin, 2017, p. 46).

Ma et al. (2020) assessed USDA "Forest Service employees' knowledge, attitudes, behaviors, and perceived barriers and opportunities regarding promoting broadly defined sustainability goals" (p. 108). The mixed-methods study included a census survey emailed to all 29,129 Forest Service employees. The researchers found "a sizable proportion of agency employees view sustainability as just words with little practical impact on the way they do business" (Ma et al., 2020, p. 120). As such, the authors encouraged administrators to incorporate sustainability into current work practices as an alternative to developing new sustainability initiatives.

While the previous studies focus on public employees, all of them examine the USDA Forest Service employee population. This study concentrated on state and local park and recreation department administrators. Although all are public agency employees, the subgroup of state and local administrators is under-researched.

Compiling the Data

The initial recruitment message linking to the survey instrument was emailed to 610 distinct addresses on April 8, 2021. After removing undeliverable addresses (disabled, domain does not exist, recipient not found, unknown address), a reminder email was sent to 561 distinct addresses on April 20, 2021. By May 4, 2021, there were 181 total responses for a total response rate of 32%. This response rate coincides with the trend of declining response rates across surveys as a whole and online surveys in particular (Lindgren et al., 2020; Mavletova, 2013; Van Mol, 2017), but is slightly higher than the 25%-30% range for email surveys (Menon & Muraleedharan, 2020). Additionally, this survey was conducted during the global COVID-19 pandemic, when response rates have been seen to be even lower (Attarabeen et al., 2021; Gallo et al., 2020; Trivedi et al., 2021).

Compared with other VBN studies, this study's response rate is between the 5.8% rate of Han & Hwang (2017) and the 42.8% rate of Choi et al. (2015), though the latter study did offer an incentive for completing the survey. This study's response rate is also consistent with a study by Brown and Weber (2011), which included parks staff in its sample. After removing incomplete responses, where participants clearly stopped answering all remaining questions before the end of the instrument, the total dropped to 122 for a completion rate of 67% and a useable response rate of 22%.

The data were exported from the survey software QuestionPro into the statistical software SPSS 27 for analysis. Descriptive statistics for demographics are listed in Table 1. Describing the average participant by using the most common demographic responses, administrators are 46-year-old males with a bachelor's degree working at a facility at the city level and have 17 years of experience, of which 12 of those are in a decision-making capacity.

Composite scores were calculated for each of the instrument's scales, and reliability statistics were computed to measure internal consistency. According to Salkind (2006), an alpha score greater than .70 is acceptable to establish internal consistency, and the values, beliefs, and behaviors scales were each at .80 or above (see Table 2).

Research Questions

After constructing the survey instrument, research questions were produced based on the purpose statement and design for the study. The research questions are listed below:

RQ1: To what extent do values and beliefs influence park and recreation administrators' implementation of pro-environmental behaviors?

The first research question intended to assess the validity of this study's adjusted VBN framework as it relates to state and local park and recreation administrators in Tennessee. First,

the VBN theory would be analyzed after removing the awareness of consequences, ascription of responsibility, and personal norm constructs to see if results were consistent with studies using the full VBN model. Second, VBN theory is not heavily researched in organizations in general (Andersson et al., 2005; Ture & Ganesh, 2018) and park and recreation administrators specifically. This question could help address both issues simultaneously, while also adding theoretical significance. To assess the extent to which economic, environmental, and social sustainability concerns factor into state and local park and recreation administrators' decisions, RQ1 analyzes behaviors as a whole.

RQ2: Are administrators' demographic data significant factors on pro-environmental behavior policymaking decisions?

The second research question intended to determine if specific demographic differences were significant in administrators' implementation of pro-environmental behavior. Focusing on demographic data could help find differences in key segments within the overall sample of administrators. Specifically, administrators' gender, education level, and years of experience in the industry were analyzed. In previous VBN studies noting demographic data, Lind et al. (2015) found gender and education level significant factors in sustainable travel mode choice in urban areas, and Jansson et al. (2011) found alternative fuel vehicle adopters were more highly educated than non-adopters. Sustainability and its effect on pro-environmental behavior can be examined through multiple demographic lenses. For example. education levels could uncover differences in curricular emphasis and academic knowledge, while years of experience could reveal the accumulation of on-the-job learning and industry knowledge. RQ2 turns the focus on the participants to help assess the extent to which economic, environmental, and social sustainability concerns factor into state and local park and recreation administrators' decisions.

RQ3: Do beliefs significantly influence pro-environmental behavior when behaviors are separated into economic, environmental, and social sustainability categories?

The third research question intended to assess environmentally significant behavior when split into categories corresponding with the three pillars of sustainability. Differing conclusions could be inferred if beliefs were found to be significant predictors of zero, one, two, or all three categories of behavior. Additionally, managerial recommendations could be proposed to address any disparities in the results. At the time of this study, no previous research was found in VBN framework literature where behaviors were categorized into sustainability pillar classifications and analyzed. As such, theoretical implications could also be suggested, based on the results. RQ3 most closely aligns with the overall purpose of the study, to assess the extent to which economic, environmental, and social sustainability concerns factor into state and local park and recreation administrators' decisions regarding outdoor recreation and facilities in Tennessee.

RQ4: What constraints do administrators encounter, hindering the implementation of pro-environmental behaviors?

The final research question intended to determine the biggest hurdles administers face when trying to implement pro-environmental behaviors. Results would be of greatest significance to practitioners. Administrators can see if their perceived barriers align with those of their peers. Additionally, results on constraints could have theoretical implications, as Hiratsuka et al. (2018) note in their call for future research to test if VBN theory's predictive power is affected by constraints. Previous research shows VBN theory having less explanatory power when there are strong constraints present (Guagnano et al., 1995; Shi et al., 2019; Steg et al., 2005). To help assess the extent to which economic, environmental, and social sustainability concerns factor into state and local park and recreation administrators' decisions, RQ4 focuses

on administrators' perceived factors impeding the implementation of environmentally significant behaviors.

Chapter Four

Results

Analyzing RQ1

To examine the extent to which values and beliefs factor into administrators' implementation of pro-environmental behaviors, ordinary least squares regression-based path analysis, or mediated regression, was used to determine the total effect of values on behaviors. The total effect combines the direct effect from values to behaviors and the indirect effect of values to behaviors through the mediating variable of beliefs, as seen in Figure 6.

Results indicated that values indirectly influenced pro-environmental behavior through its effect on beliefs. As can be seen in Figure 6 and Table 4, values were a significant predictor of beliefs (a = .66, SE = .11, 95% CI [.45, .88], p = .00), and beliefs were a significant predictor of pro-environmental behavior, (b = .27, SE = .09, 95% CI [.09, .45], p = .00). These results show beliefs partially mediated the relationship between values and pro-environmental behaviors. A bias-corrected bootstrap confidence interval for the indirect effect (ab = .18) based on 5,000 bootstrap samples was entirely higher than 0, indicating statistical significance (Hayes, 2017). This indirect effect is interpreted as the average change in pro-environmental behavior associated with a one-point increase in values as a result of the effect of values on beliefs which, in turn, affects pro-environmental behavior. Finally, administrators with higher levels of values implement higher levels of pro-environmental behavior based on the direct effect results ($c´$ = .35).

To answer the research question, values and beliefs are both significant predictors of pro-environmental behaviors. Additionally, the findings validate this study's adjusted VBN framework model after removing the awareness of consequences and ascription of responsibility

constructs from the beliefs section, as well as the personal norm section entirely. Previous studies have successfully used a partial VBN model, with Choi et al. (2015) including only biospheric values to represent values, Shi et al. (2019) including only ascription of responsibility to represent beliefs, and Wolske et al. (2017) including only awareness of consequences to represent beliefs.

Analyzing RQ2

Participants answered demographic questions including gender, education level, and years of experience in a park and recreation department setting. To examine if administrators' demographic factors influence pro-environmental policymaking decisions, multiple regression estimated via ordinary least squares was used. In this analysis, policymaking decisions were designated as all pro-environmental behavior items on the instrument as a group. Additionally, though the survey instrument listed six levels of education for participants to select from, results are aggregated into three groups: less than a bachelor's degree (N=16); bachelor's degree (N=71); and greater than a bachelor's degree (N=30). As the first and last levels, less than a high school diploma and PhD, respectively, each had a single participant (N=1), the education levels were grouped into subsets closer in size for analysis.

Using multiple regression allows researchers to estimate the relationship between a set of explanatory variables and a dependent variable. A significant regression equation was found ($F(5, 111) = 9.24$, $p = .00$), with an adjusted R^2 of .26, which means the overall model showed that values, beliefs, gender, education, and experience accounted for 26% of the variance in pro-environmental behavior. According to Kutner et al. (2005), R^2 values closer to 1 have greater degrees of linear association between the predictor variables and the observations. In comparison to other VBN studies, the adjusted $R^2 = .26$ was similar to Fornara et al.'s (2020) R^2

= .28, Megeirhi et al.'s (2020) R^2 = .28, and Steg et al.'s (2005) R^2 = .32. However it did fall below Han et al.'s (2018) R^2 = .41, Kaiser et al.'s (2005) R^2 = .64, and Wynveen et al.'s (2015) R^2 = .59.

Administrators' predicted level of implementing pro-environmental behavior was equal to 1.20 + .39 (Values) + .33 (Beliefs) + .20 (Gender) + .13 (Education) + .00 (Years of Experience), where gender is coded as 0 = female, 1 = male, and education is coded as 0 = less than a bachelor's degree, 1 = bachelor's degree, 2 = greater than a bachelor's degree. Pro-environmental behavior increased .39 for each unit increase in values, .33 for each unit increase in beliefs, .20 if the administrator is female, .13 for each increase in level of education, and .00 for each year of experience. To answer the research question, results indicated values and beliefs were significant predictors of pro-environmental behavior, while gender, education level, and years of experience were not, as shown in Table 5.

Analyzing RQ3

Path analysis estimated via maximum likelihood was used to evaluate the influence values and beliefs have on economic, environmental, and social sustainability pro-environmental behaviors. Maximum likelihood path analysis estimates the "extent that the expected distribution of scores fits with the actual distribution of scores" (Allen, 2018, p. 928). Values were categorized as altruistic, biospheric, and egoistic, based on the standard VBN framework (Stern, 2000; Stern et al., 1999). As seen in Figure 7 and Tables 6 and 7, results indicated statistically significant effects from biospheric values to beliefs (B = .61, SE = .07, p = .00), beliefs to economic behavior (B = .26, SE = .09, p = .00), beliefs to environmental behavior (B = .35, SE = .09, p = .00), and beliefs to social behavior (B = .66, SE = .11, p = .00).

Using root mean square error of approximation (RMSEA), one of the most popular goodness-of-model fit measures (Kenny et al., 2015), this model was not a good representation of the structure of the data. Recommended RMSEA population parameter values approximate .05 to be indicative of a close fit of the model (Browne & Cudeck, 1992; Hu & Bentler, 1999; MacCallum et al., 1996). Although Kenny et al. (2015) show inflated RMSEA values on models with small degrees of freedom and small sample sizes, this model's RMSEA population parameter value of .34 far exceeds the generally accepted maximum and suggests model improvements need to be made. To answer the research question, although the results found biospheric values to be significant predictors of beliefs and beliefs to be significant predictors of all three categories of behavior, no definitive claim can be made, as the model was not a good representation of the structure of the data.

Analyzing RQ4

RQ4 focused on what constraints administrators face hindering the implementation of pro-environmental behaviors. Out of the 122 completed surveys, only 13 respondents indicated they previously wanted to implement a new sustainability policy but could not due to various factors. Previous research shows VBN theory having less explanatory power when there are strong constraints present (Guagnano et al., 1995; Shi et al., 2019; Steg et al., 2005). This study's findings of values and beliefs having a significant influence on behavior, combined with the small number of respondents commenting on constraints to behavior, support those studies.

Based on participants' comments entered, the majority (77%) were categorized as structural constraints, as seen in Table 8. Lack of funding (54%) and lack of staffing (46%) were included the most often in comments. Funding was considered a structural constraint based on Crawford and Godbey's (1987) definition and by the administrators' choice of words, such as

"available funding" and "constraints of municipal government (spending/costs to implement change)." In other words, it was not evident that administrators had enough money, but chose to fund other projects that would not be considered environmentally significant behavior. Funding as the top constraint cited is consistent with previous research on significant constraints to behavior (McCullough & Cunningham, 2011; Trail & McCullough, 2020) and the importance of partnerships to pool resources (Crompton, 1999; Mowen & Everett, 2000; Mowen & Kerstetter, 2006). It is also clear that governmental legislation was not perceived as a constraint to implementing pro-environmental behaviors, as it was not listed by any administrator in the study. To answer the research question, structural constraints, specifically funding and staffing, are the most cited by administrators.

Chapter Five

Discussion and Conclusion

RQ1 Discussion

This study's VBN framework found values were mediated by beliefs to influence behavior. "An important element of the VBN theory is that the link from values to environmentalism is mediated by particular beliefs" (Stern, 2000, p. 414). The purpose of using mediation analysis is to see how an independent variable influences or impacts a dependent variable. In this simple mediation model, there are two pathways by which values can influence pro-environmental behavior: the direct effect of values on pro-environmental behavior; and the indirect effect of values on pro-environmental behavior through beliefs. This study found both effects to be significant.

Researchers typically use Baron and Kenny's (1986) four steps to mediated regression. In this study, using SPSS for analysis, the four steps were as follows. The first step was to show that the causal variable, values, is correlated with the outcome variable, pro-environmental behaviors. The second step was to show that values are correlated with the mediator, beliefs. The third step was to show that beliefs affect pro-environmental behaviors. The fourth step is to determine whether beliefs completely or partially mediate the relationship between values and pro-environmental behaviors.

Since there was a direct effect between values and pro-environmental behavior that was not reduced to 0 when including beliefs, the model does show partial mediation. This finding suggests that values affect pro-environmental behavior indirectly via beliefs. Additionally, with finding a significant direct effect between values and pro-environmental behavior, relationships between variables more than one level apart in the causal chain were found. Both findings

support the validity of this study's use of a partial VBN framework. Values and the new ecological paradigm as the sole component of beliefs have significant direct and indirect effects, even when excluding awareness of consequences, ascription of responsibility, and personal norm constructs from the full VBN model.

Although simple "mediation is ultimately a causal explanation" (Hayes, 2017, p. 81), it is also considered rudimentary and an oversimplification (Hayes, 2017) of how an independent variable influences a dependent variable. However, this was a useful first step in analysis. If no significant effects were found at this stage, further analysis may have been deemed unnecessary. As such, additional analyses were performed to understand the causal chain aspect of VBN theory in greater detail as it relates to this study.

RQ2 Discussion

To examine if administrators' demographic factors influence pro-environmental policymaking decisions, multiple regression estimated via ordinary least squares was used. Results were mixed, as values and beliefs were significant predictors of pro-environmental behavior, while gender, education level, and years of experience were not. Values and beliefs being significant predictors further validates this study's adjusted VBN model. However, the administrators' gender, education level, and years of experience did not influence their implementation of pro-environmental behaviors. Demographic factors not being a significant influence in the outcome variable is common in VBN studies (Fornara et al., 2020; Ture & Ganesh, 2018), though Jansson et al. (2011) found that alternative fuel vehicle adopters were more highly educated than non-adopters, and Lind et al. (2015) found gender and education level significant factors in sustainable travel mode choice in urban areas.

The non-significance of demographic factors on the implementation of pro-environmental behavior may itself be significant. This implies a homogeneous culture. Park and recreation administrators have similar levels of environmentally significant behavior implementation regardless of their gender, education level, or years of experience in the industry. This finding is probably due to the type of people the profession attracts, as seen by the specific traits noted for prospective employees on the National Recreation and Park Association website: "If you have a passion for being outdoors, helping people, and bettering your community, you may want to consider a career in this field" (NRPA, 2021, para. 1).

RQ3 Discussion

The extent to which administrators implement economic, environmental, and social sustainability pro-environmental behaviors was examined. In this study, consistent with previous VBN theory research (De Groot & Steg, 2007; Hiratsuka et al., 2018; Ünal et al., 2019), the stronger administrators endorsed biospheric values, the stronger their ecological worldview beliefs. In turn, the stronger administrators endorsed ecological worldview beliefs, the more they implemented pro-environmental behavior, with beliefs being a significant predictor of all three sustainability categories of pro-environmental behavior. Previous VBN research shows ecological worldview as a significant predictor of behavior (Jansson et al., 2011), though most analyze ecological worldview's influence on awareness of consequences (Han et al., 2018; Hwang et al., 2020; Steg et al., 2005; Wynveen et al., 2015). Grouping pro-environmental behavior into sustainability categories has not been done in previous VBN research.

It would be nice to say that the statistically significant results offer additional evidence of the validity of this study's partial VBN framework. However, the model was not a good fit, based on this model's high root mean square error of approximation (RMSEA) value of .34.

RMSEA is test of model fit, or how plausible the results are in the study's model for path analysis. Unfortunately, RMSEA does not show why the model is a poor fit nor what corrections need to be made to the model.

With numerous previous studies validating VBN theory, dividing pro-environmental behavior into the economic, environmental, and social sustainability categories may have been a negative determining factor. One explanation is that categorizing each behavior is somewhat subjective, which can lead to ambiguity. For example, lowering costs by using less water is both economic, due to financial savings, and environmental, due to lower usage of natural resources.

Many studies using the full VBN framework analyze the causal chain to one specific behavior. Aguilar-Luzón et al. (2012) examined recycling behavior; Hwang et al. (2020) analyzed drone food delivery services; Lind et al. (2015) looked at travel mode choice; López-Mosquera and Sánchez (2012) explained willingness to pay for a suburban park; Van der Werff and Steg (2016) examined participation in smart energy systems. Constructing and analyzing models to each of the 13 behaviors questioned in this study's survey instrument would have led to a greater possibility of statistical error. Specifically, the familywise error rate, or the probability of including at least one Type I error (Howell, 2010) would have increased.

RQ4 Discussion

Participants listed constraints they encountered when trying to implement pro-environmental behavior policy. With only 13 participants citing constraints, it is clear that strong constraints are not present. One reason that may explain why so few people listed constraints to implementing pro-environmental behavior is that external conditions may influence neither beliefs nor behavior (Shi et al., 2019). In other words, administrators' implementation of behavior may be largely influenced by personal norms, regardless of any external constraints;

only one administrator cited an intrapersonal constraint. In contrast, Tanner (1999) notes constraints explain a significant amount of variance in behavior, which could coincide with this study's multiple regression model explaining only 26% of the variance in pro-environmental behavior. Other researchers also show behavior being influenced by external conditions (Guagnano et al., 1995) or constraints (Hiratsuka et al., 2018; Kim et al., 2020; Trail & McCullough, 2020).

As structural constraints comprised 77% of all constraints cited, the organizational habits, or standard operational procedures, were viewed by administrators as the most significant impediment to implementing pro-environmental behavior policies. More specifically, funding was the most often cited constraint given in this study. One can conclude that administrators, given a larger budget, would seek to implement greater pro-environmental behaviors.

Theoretical Implications

This study's results prove the validity of a partial VBN model, specifically when awareness of consequences, ascription of responsibility, personal norm constructs are excluded. Previous studies using partial VBN models include one of Stern et al.'s (1999) foundational VBN studies to examine the theory's predictive value. Wynveen et al.'s (2015) study on the encouragement of pro-environmental behaviors in protected marine settings excluded all values constructs. Hiratsuka et al.'s (2018) study on car pricing policy in Japan excluded the new ecological paradigm (NEP) from the beliefs construct.

The partial VBN model is valid for behaviors within organizations in general and with park and recreation departments in particular. However, the lack of significant effects of demographic variables gives pause in generalizing this study's results to different populations.

Additional research should be completed to determine if a partial VBN model is reliable, or if this study's participants' homogeneity is responsible for the statistical significance of the data.

This study also confirms the importance and statistical significance of biospheric values. Much of the VBN literature claims the importance of biospheric values (de Groot & Steg, 2008; Choi et al., 2015; Han et al., 2017; Hiratsuka et al., 2018; Steg et al., 2005; van der Werff & Steg, 2016; Whitley et al., 2018), and this study supports those previous findings in a new context.

Managerial Recommendations

The results from this and other VBN studies show the influence of values and beliefs will differ depending on the specific pro-environmental behavior policies administrators are considering implementing. Additional factors, such as the structural constraints of funding and staffing, will also influence policy implementation. No single analytical model can include all relevant predictors to explain pro-environmental behavior. However, for greater pro-environmental support and implementation, administrators' biospheric values should be targeted. First, if increasing implementation of pro-environmental behavior policy is an organizational goal, prospective employees can be surveyed regarding their level of biospheric values as part of the application and interview process.

One potential option to target biospheric values is to allow administrators to see the organization's ecocentric priorities during the framing and development of corporate strategy. Adding biospheric value themes to communications with administrators can help explain why organizational policies related to sustainability or environmentally significant behavior are implemented. Examples could include highlighting administrators' past pro-environmental actions to increase salience (Cornelissen et al., 2008; Van der Werff & Steg, 2016) or

emphasizing group connections to pro-environmental behaviors (Bouman et al., 2020; Wang et al., 2021). Effective training strategies can attempt to build administrators' skill levels along with helping them learn about new environmental issues and abatement plans.

Even if an end goal is aimed toward economic or social sustainability, emphasizing costs and benefits for the environment and other species to help underscore administrators' biospheric values can be an effective strategy. As this study has shown, an increase in administrators' biospheric values increases ecological worldview beliefs, which increases implementation of economic, environmental, and social sustainability behaviors. As such, organizations do not have to focus on one targeted behavior for policy implementation (Ruepert et al., 2016).

Demographic variables did not significantly influence administrators' implementation of pro-environmental behavior. The finding of homogeneity in the industry has both positive and negative implications. When everyone agrees, the workplace presumably is a pleasant environment with greater cooperation and harmony. However, if no one disagrees or offers alternatives, the lack of diverse viewpoints could lead to groupthink and decisions that are not representative of those outside of administration. Including stakeholders in the process should add to the diversity of thought and result in better, more representative recreation policies and offerings (Bitsura-Meszaros et al., 2019; Ghimire et al., 2014; Jamal & Stronza, 2009).

All of these recommendations help guard against greenwashing, or the gap between what organizations claim they are doing to protect the environment and how harmful their practices are. Although the results of this study indicate administrators' implementation of pro-environmental behaviors are aligned with their values and beliefs, thus limiting potential greenwashing, the above recommendations can further reduce the gap between claims and

practices. Perceived brand authenticity can increase for both administrators and park and recreation facility users.

Limitations and Future Research

Stern (2000) noted, "The determinants of individual behavior within organizations are likely to be different from those of political or household behaviors" (p. 410). As such, there is limited VBN research in organizations (Andersson et al., 2005; Ture & Ganesh, 2018). This study focused on pro-environmental behavior in the workplace, where the economic benefits (saving money on electricity, water, etc.) and costs are realized by the organization, not the individual. Consequently, personal behavior preferences could be overridden by corporate culture. Additionally, from a statistical standpoint, path analysis "is best known in analyses that only consider relations among observed variables" (Grace & Bollen, 2005, p. 288). Future studies should include organizational influences as variables to examine in the model.

Self-reporting of pro-environmental behavior is influenced by social desirability bias (Thøgersen & Ölander, 2006), though less so on anonymous questionnaires (Milfont, 2009). This study was designed to ensure the anonymity of participants, and all potential respondents were informed of the precautions taken to protect anonymity. For the survey instrument, adding personalization to the recruitment email messages, which could have been done in this study, has been shown to increase response rates (Muñoz-Leiva et al., 2010; Sauermann & Roach, 2013).

By omitting awareness of consequences (AC) and ascription of responsibility (AR) from the beliefs construct, as well as the personal norms (PN) construct, this study did not test the full VBN theory. Though previous studies have successfully used a partial VBN model (Choi et al., 2015; Wolske et al., 2017), adding AC, AR, and PN items to the instrument would allow the full model to be analyzed. Shortening the survey instrument by 22 items from its first iteration

resulted in a response rate consistent with current trends (Lindgren et al., 2020; Mavletova, 2013; Van Mol, 2017), but adding in the missing constructs should be considered in future studies.

To counteract the additional items, future instruments can focus on a single pro-environmental behavior instead of the economic, environmental, and social sustainability categories of behaviors. This study did not analyze a model for each of the 13 pro-environmental behaviors in order to reduce statistical error, specifically the familywise error rate (Howell, 2010). A research design focusing analysis on a model including a single pro-environmental behavior would reduce or eliminate familywise error rate. For example, examining the effects of the "renewed interest in parks, trails and walkable environments" (Dolesh, 2021, p. 36) can be done by focusing on park users, while also allowing a closer look at any potential changes in organizational culture brought about by the pandemic.

Conclusion

This study assessed the extent to which economic, environmental, and social sustainability concerns factor into state and local park and recreation administrators' decisions regarding outdoor recreation and facilities in Tennessee. Variables for analysis included administrators' values, beliefs, pro-environmental behavior implementation, perceived constraints, and demographics. Results support the general value belief norm (VBN) framework's causal chain model. However, this study used an adjusted VBN model, excluding the awareness of consequences, ascription of responsibility, and personal norm constructs from the full model. Overall, increasing administrators' biospheric values positively affects their ecological worldview beliefs, which, in turn, increases the likelihood of economic, environmental, and social sustainability policy implementation.

This study's partial VBN model showed values had a significant direct effect on pro-environmental behavior and a significant indirect when mediated by beliefs. These findings correlate to VBN's causal chain model, where relationships are found between variables in subsequent links as well as more than one level apart. Using multiple regression, the overall model including values, beliefs, gender, education, and years of experience accounted for 26% of the variance in pro-environmental behavior. Values and beliefs were found to be significant predictors of behavior, but the demographic variables were not.

Path analysis estimated via maximum likelihood found stronger biospheric values leading to stronger ecological worldview beliefs. In turn, stronger ecological worldview beliefs led to greater implementation of pro-environmental behavior when behavior is split into economic sustainability, environmental sustainability, and social sustainability categories. However, the model was not a good representation of the structure of the data, as evidenced by the high root mean square error of approximation (RMSEA) of .34. Strong constraints were not found to be present in this study, as only 13 participants cited specific constraints when prompted. Structural constraints were cited the most, with funding and staffing as the most common specific constraints listed.

Previous research using VBN theory typically focuses on personal behaviors, and this study adds to the literature concerning pro-environmental behaviors within organizations generally and park and recreation administrators specifically. To increase pro-environmental behavior policy implementation within park and recreation departments, administrators' biospheric values should be highlighted and enhanced. Focusing on biospheric values increases pro-environmental behavior as a whole, so administrators do not have to concentrate on any specific behavior. Future studies should include organizational influences as variables to

examine in the model but focus on a singular pro-environmental behavior. In short, it is suggested that administrators focus on all pro-environmental behavior, whereas researchers should focus on individual pro-environmental behaviors for each study.

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Appendices

Appendix A: Instrument

Consent Cover Statement

Examining the Role Sustainability Plays in Tennessee Park and Recreation Administrator Outdoor Recreation Policy Decisions

INTRODUCTION

Hello, my name is Scott Smith, and I am a doctoral student at the University of Tennessee. I am conducting research to examine the experiences of administrators in park and recreation departments in Tennessee. You are invited to participate in this research study because you are listed as an administrator on the department's website. The purpose of this study is to examine the extent to which sustainability factors into your policy decisions regarding outdoor recreation.

INFORMATION ABOUT PARTICIPANTS' INVOLVEMENT IN THE STUDY

If you choose to participate, you will be completing a survey with questions about your values, beliefs, norms, sustainability behaviors, and demographics. It will take approximately 30 minutes to complete.

RISKS

There are no foreseeable risks, other than those encountered in everyday life.

BENEFITS

There are no direct benefits to the participant stemming from participating in this research project. However, by participating, you will be providing greater insight into administrators in park and recreation departments.

CONFIDENTIALITY

Your responses will be confidential, as we do not collect any identifying information.

CONTACT INFORMATION

If you have questions at any time about the study or the procedures (or you experience adverse effects as a result of participating in this study), you may contact the researcher, Scott Smith, PhD student at the University of Tennessee at (865) 974-8171 or scottsmith@utk.edu. You may also contact Rob Hardin, faculty advisor on this project at (865) 974-1281 or robh@utk.edu. If you have questions about your rights as a participant, you may contact the University of Tennessee IRB Compliance Officer at utkirb@utk.edu or (865) 974-7697.

PARTICIPATION

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled. If you withdraw from the study before data collection is completed, your data will be deleted.

CONSENT

I have read the above information. I have received (or had the opportunity to print) a copy of this form.

Continuing on to the survey (questionnaire) via the following link constitutes my consent to participate.

LINK TO SURVEY INSTRUCTION PAGE

Instructions for Completing Questionnaire

Thank you for taking the time to complete this survey. The survey consists of questions about your values, beliefs, norms, sustainability behaviors, and demographics.

Who should complete this survey?	Tennessee park and recreation department administrators.
Why is the survey important?	Information you provide will help researchers and practitioners examine the extent to which sustainability factors into policy decisions regarding outdoor recreation.
Is the information I provide kept confidential?	Yes. Identifying information is NOT collected, so your answers remain confidential and anonymous.
Whom can I call to verify the legitimacy of the survey?	University of Tennessee Institutional Review Board (865) 974-7697

The survey consists of four sections. Each section will have instructions specific to completing that section's questions appropriately. Please be sure to read the instructions for each section before answering questions.

By clicking start below, you confirm you are over 18 years of age and you consent to take the survey.

LINK TO START SURVEY

Survey Instrument

Below, thirteen values are described. The explanation of each value is given in the parentheses following each value. Please indicate how important each value is for you AS A GUIDING PRINCIPLE IN YOUR LIFE. For each value below, please indicate whether you feel it is NOT AT ALL IMPORTANT, has LOW IMPORTANCE, are NEUTRAL, is IMPORTANT, or is VERY IMPORTANT.

	Not at all important	Low importance	Neutral	Important	Very important
1. Equality (equal opportunity for all)	❑	❑	❑	❑	❑
2. Respecting the earth (harmony with other species)	❑	❑	❑	❑	❑
3. Social power (control over others; dominance)	❑	❑	❑	❑	❑
4. Unity with nature (fitting into nature)	❑	❑	❑	❑	❑
5. A world at peace (free of war and conflict)	❑	❑	❑	❑	❑
6. Wealth (material possessions; money)	❑	❑	❑	❑	❑
7. Authority (the right to lead or command)	❑	❑	❑	❑	❑
8. Social justice (correcting injustice; care for the weak)	❑	❑	❑	❑	❑
9. Protecting the environment (preserving nature)	❑	❑	❑	❑	❑

10. Influential (having an impact on people and events)	❑	❑	❑	❑	❑
11. Helpful (working for the welfare of others)	❑	❑	❑	❑	❑
12. Preventing pollution (protecting natural resources)	❑	❑	❑	❑	❑

For each statement below, please indicate whether you STRONGLY DISAGREE, MILDLY DISAGREE, are UNSURE, MILDLY AGREE or STRONGLY AGREE with it.

	Strongly disagree	Mildly disagree	Unsure	Mildly agree	Strongly agree
13. We are approaching the limit of the number of people the earth can support	❑	❑	❑	❑	❑
14. Humans have the right to modify the natural environment to suit their needs	❑	❑	❑	❑	❑
15. When humans interfere with nature, it often produces disastrous consequences	❑	❑	❑	❑	❑
16. Human ingenuity will ensure that we do NOT make the earth unlivable	❑	❑	❑	❑	❑
17. Humans are severely abusing the environment	❑	❑	❑	❑	❑
18. The earth has plenty of natural resources if we just learn how to develop them	❑	❑	❑	❑	❑
19. Plants and animals have as much right as humans to exist	❑	❑	❑	❑	❑

20. The balance of nature is strong enough to cope with the impacts of modern industrial nations	❑	❑	❑	❑	❑
21. Despite our special abilities, humans are still subject to the laws of nature	❑	❑	❑	❑	❑
22. The so-called "ecological crisis" facing humankind has been greatly exaggerated	❑	❑	❑	❑	❑
23. The earth is like a spaceship with very limited room and resources	❑	❑	❑	❑	❑
24. Humans were meant to rule over the rest of nature	❑	❑	❑	❑	❑
25. The balance of nature is very delicate and easily upset	❑	❑	❑	❑	❑
26. Humans will eventually learn enough about how nature works to be able to control it	❑	❑	❑	❑	❑
27. If things continue on their present course, we will soon experience a major ecological catastrophe	❑	❑	❑	❑	❑

For each departmental practice below, please indicate whether you WILL NEVER, PROBABLY WILL NOT, are UNSURE, PROBABLY WILL or ALREADY DO implement the practice.

	Will never implement	Probably will not implement	Unsure	Probably will implement	Already do implement
28. Have a written sustainability plan	❑	❑	❑	❑	❑
29. Educate users on sustainability practices	❑	❑	❑	❑	❑

30. Track cost savings derived from sustainability practices	❑	❑	❑	❑	❑
31. Offer recycling opportunities	❑	❑	❑	❑	❑
32. Offer composting opportunities	❑	❑	❑	❑	❑
33. Use energy efficient lighting	❑	❑	❑	❑	❑
34. Use low-flow plumbing fixtures	❑	❑	❑	❑	❑
35. Manage stormwater runoff	❑	❑	❑	❑	❑
36. Promote cultural education and conservation	❑	❑	❑	❑	❑
37. Use solar power	❑	❑	❑	❑	❑
38. Track water usage	❑	❑	❑	❑	❑
39. Conduct wildlife inventories	❑	❑	❑	❑	❑
40. Pursue sustainability certification(s)	❑	❑	❑	❑	❑

In the past, I wanted to implement a new sustainability policy, but could not due to various factors.

1. No
2. Yes

What is your age in years?

What is your gender?

1. Female
2. Male
3. Not listed
4. Prefer not to answer

What is the zip code for your agency?

Is your current employment in a park and recreation department classified as (select one)?

1. State
2. County
3. City
4. Other _____

What is the highest academic degree you completed?

1. Did not complete high school or equivalent
2. High school diploma or equivalent
3. Associate degree
4. Bachelor's degree
5. Master's degree
6. Doctoral degree

Please select all that apply:

1. I attended elementary school in Tennessee
2. I attended middle school in Tennessee
3. I attended high school in Tennessee
4. I attend/attended an undergraduate college or university in Tennessee
5. I attend/attended a graduate college or university in Tennessee
6. N/A

How many years have you worked in any capacity for a park and recreation department in Tennessee?

How many years have you worked in a decision-making capacity for a park and recreation department in Tennessee? Note: you received this survey because you are currently listed as having a decision-making position within a park and recreation department in Tennessee.

Appendix B: IRB Approval

April 06,
2021 Stephen
Scott Smith
UTK - Coll of Education, Hlth, Human - Kinesiology, Recreation & Sport Studies

Re: UTK IRB-20-06178-XM

Study Title: Examining the Role Sustainability Plays in Tennessee Park and Recreation Administrator Outdoor RecreationPolicy Decisions.

Dear Stephen Scott Smith:

The Human Research Protections Program (HRPP) reviewed your application for the above referenced project and determined that your application is eligible for **exempt** review under 45 CFR 46.101, Category 2: Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if the information obtained is recorded by the investigatorin such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by .111(a)(7).

Your application has been determined to comply with proper consideration for the rights and welfare of human subjects and theregulatory requirements for the protection of human subjects.
Therefore, this letter constitutes full approval of your application (version 1.2) as submitted, and the following study documents:

- Outdoor recreation sustainability online consent v. 1.0
- Outdoor recreation sustainability email v. 1.1
- Outdoor recreation sustainability survey- IRB updated v. 2.0

You are approved to enroll a maximum of 625 participants. Approval of this study will be valid from 04/06/2021.

You may use a Consent Cover Statement in lieu of an informed consent interview. The requirement to secure a signed consentform is waived; willingness of the subject to participate will constitute adequate documentation of consent.

Any revisions in the approved application, consent forms, instruments, recruitment materials, etc., must be submitted to and approved by the IRB prior to implementation. In addition, you are

responsible for reporting any unanticipated serious adverse events or other problems involving risks to subjects or others in the manner required by the local IRB policy.

Please note that restrictions are in place due to the COVID-19 pandemic, and all in-person contact with research participants is on hold until further notice.

- Newly-approved studies with in-person interactions may not begin enrollment until further notice from the IRB/HRPP.
- Newly-approved studies with no in-person participant interaction may begin after receiving IRB approval.

Please monitor the COVID-19 Updates at https://www.utk.edu/coronavirus/faq/ for the latest information. Human Subjects Research updates are being filed under Information for Instructors/Research.

Any alterations (revisions) in the protocol or study documents must be promptly submitted to and approved by the UTK Institutional Review Board prior to implementation of these revisions.

You have individual responsibility for reporting to the Board in the event of unanticipated or serious adverse events. Sincerely,

Lora Beebe, Ph.D., PMHNP-BC, FAAN

Chair

Institutional Review Board | Office of Research & Engagement
1534 White Avenue Knoxville, TN 37996-1529
865-974-7697 865-974-7400 fax irb.utk.edu

Appendix C: Figures

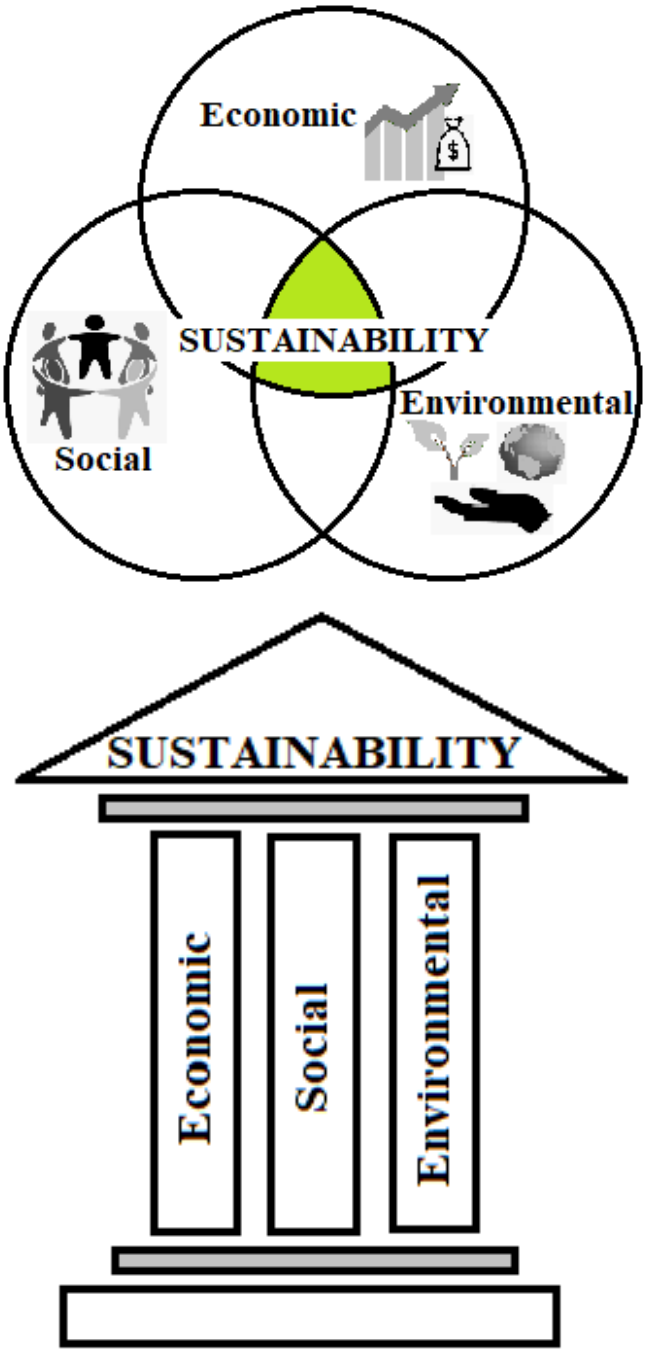

Figure 1

Visual Representations of Components and Pillars of Sustainability

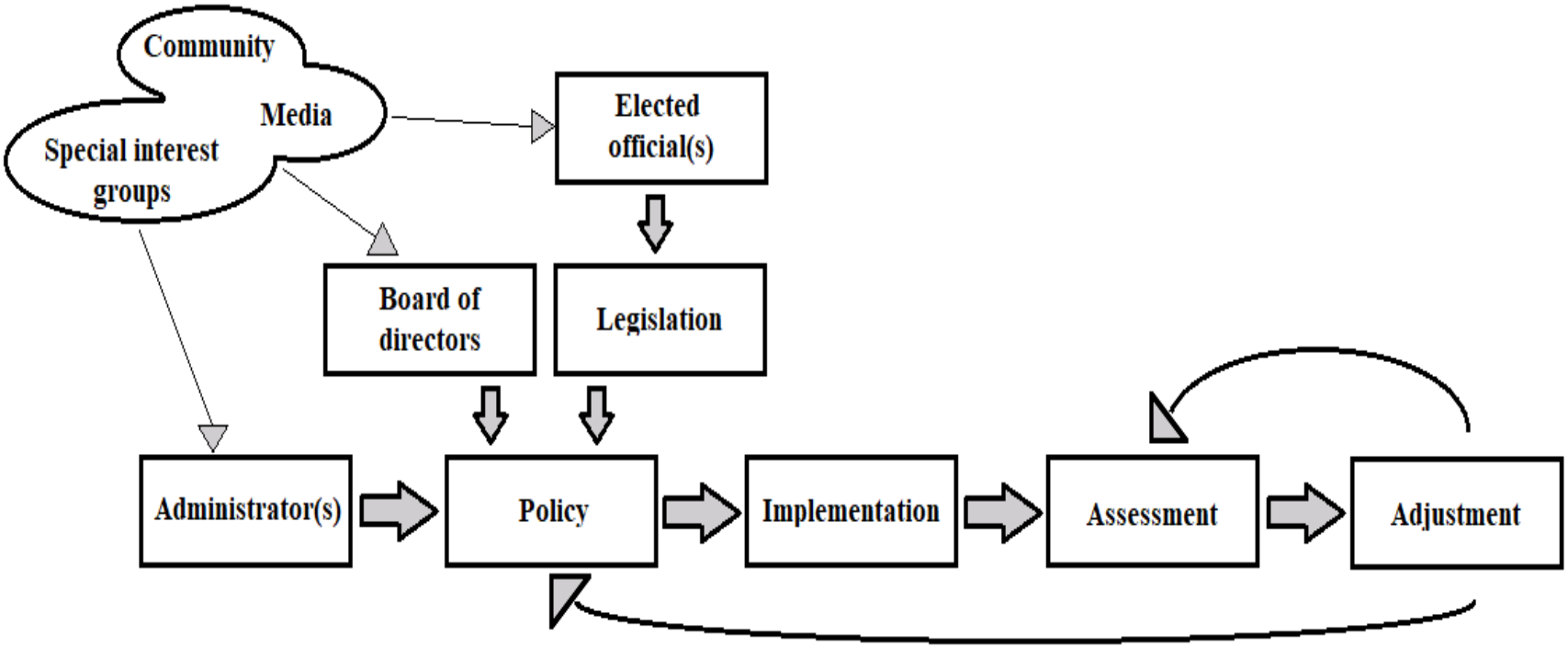

Figure 2

Model of Park and Recreation Policy Influencers, Creators, and Process

Figure 3

Use of Social Media to Convey Specialization and Emotion (Bear Trace at Harrison Bay, 2020)

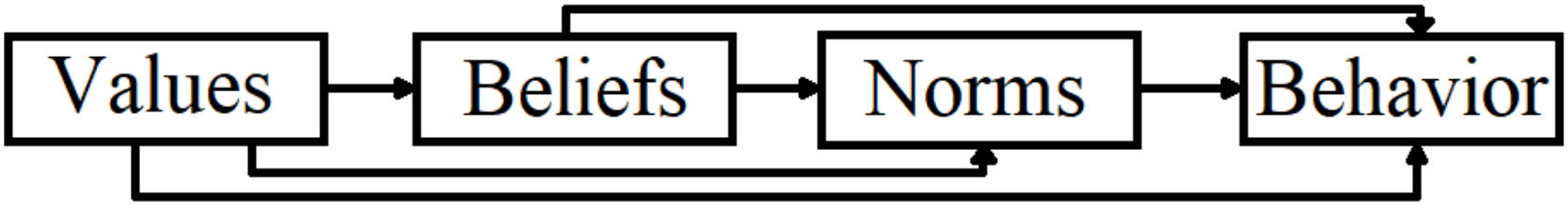

Figure 4

Illustration of VBN Framework as a Causal Chain

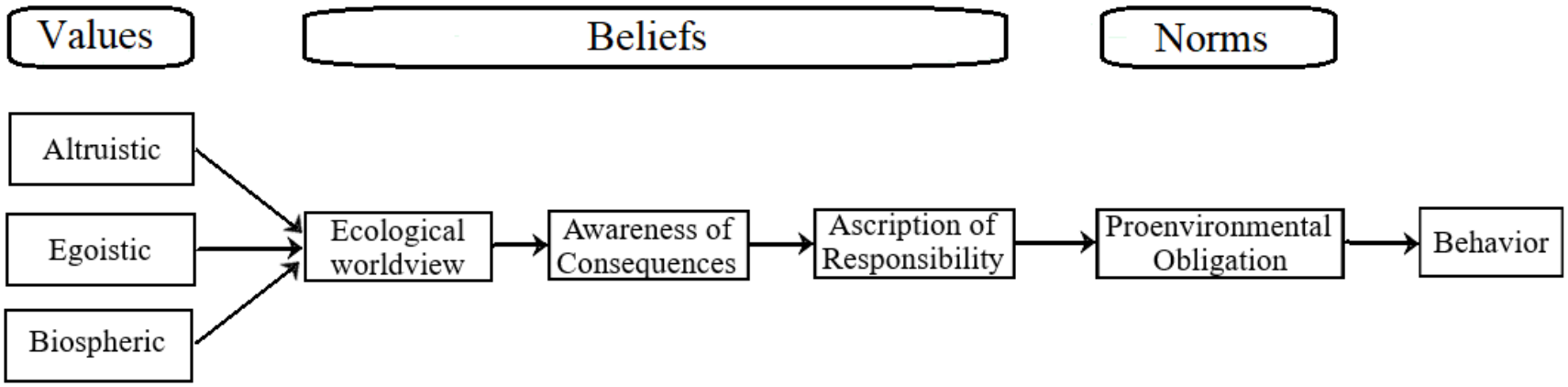

Figure 5

Expanded Illustration of VBN Framework

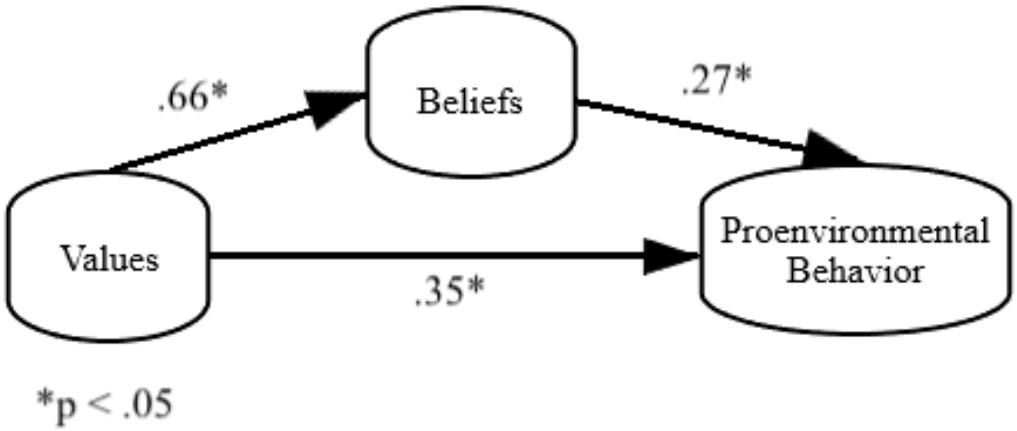

Figure 6

Regression-Based Path Analysis Model

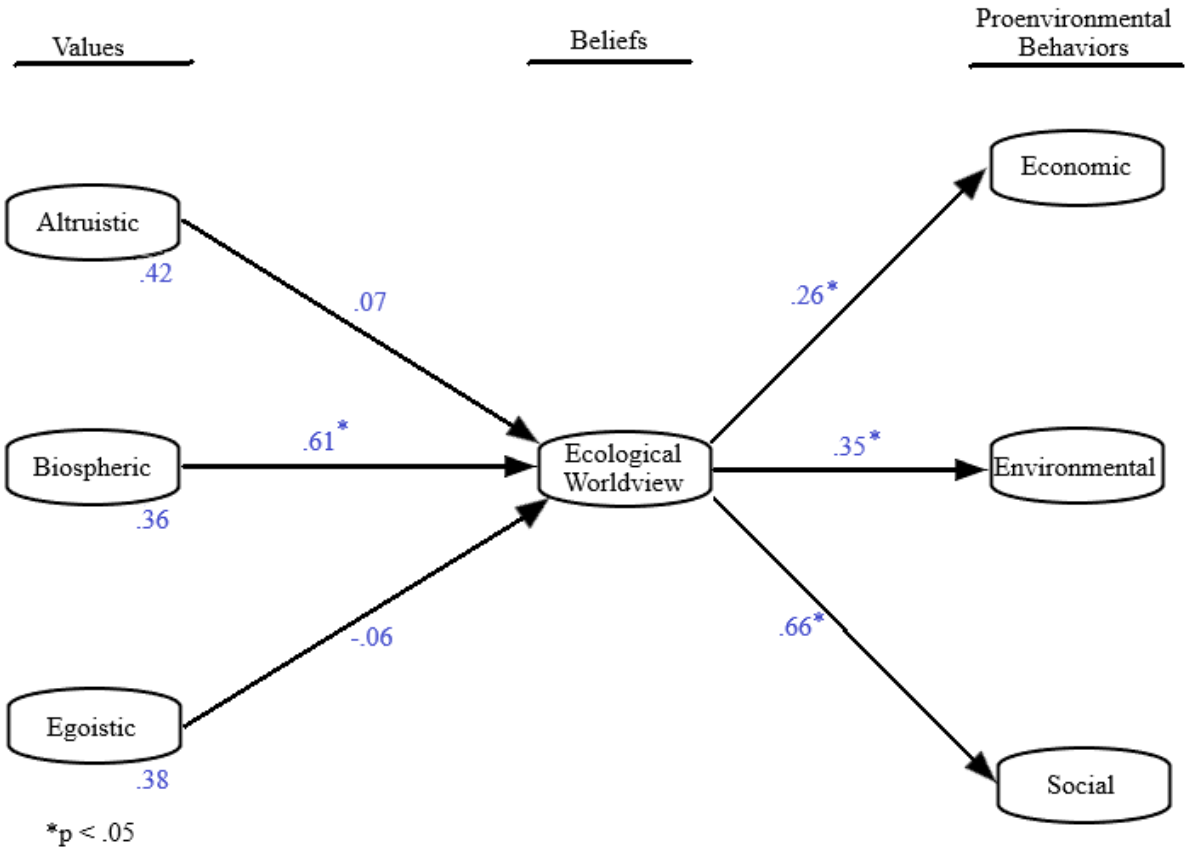

Figure 7

Maximum Likelihood Path Analysis Model

Appendix D: Tables

Table 1: Descriptive Statistics for Demographic Items

Item	Frequency	Percent	Minimum	Maximum	Average
Age	117	95.90	23	72	45.85
18-19	0	0			
20-29	8	6.56			
30-39	31	25.41			
40-49	34	27.87			
50-59	25	20.49			
60-69	17	13.93			
70+	3	2.46			
Gender	116	95.08			
Female	43	35.24			
Male	74	60.66			
Education	121	99.18			
< High School	1	0.82			
High School	7	5.74			
Associate's	8	6.56			
Bachelor's	75	61.48			
Master's	29	23.77			
Doctorate	1	0.82			
Site	120	98.36			
State	31	25.41			
County	28	22.95			
City	58	47.54			
Other	3	2.46			
Experience	119	97.54	<1	47	16.81
0-9	37	30.33			
10-19	36	29.51			
20-29	27	22.13			
30-39	11	9.02			
40+	8	6.56			
Decision Making	118	96.72	<1	45	11.86
0-9	66	54.10			
10-19	24	19.67			
20-29	17	13.93			
30-39	6	4.92			
40+	5	4.10			

Table 2: Reliability Statistics for Internal Consistency of the Instrument

Scale	Number of Items	Cronbach's Alpha
Values	12	.80
Altruistic	4	.81
Biospheric	4	.88
Egoistic	4	.60
Beliefs	15	.84
Behaviors	13	.85
Economic	4	.55
Environmental	6	.66
Social	3	.76

Table 3: Descriptive Statistics for Item Responses

Item	N	Mean	Standard Deviation
Altruistic Values			
Equality	122	4.63	.62
A world at peace	122	4.08	.95
Social justice	121	4.06	.99
Helpful	122	4.44	.66
Biospheric Values			
Respecting the earth	122	4.43	.62
Unity with nature	121	4.02	.80
Protecting the environment	121	4.38	.65
Preventing pollution	122	4.28	.75
Egoistic Values			
Social power	120	2.21	1.04
Wealth	121	2.91	.88
Authority	122	3.13	.94
Influential	122	3.89	.81
Beliefs			
People earth supports	121	3.34	1.08
Humans modify envir	122	3.25*	1.15
Disastrous consequences	120	3.86	1.06
Human ingenuity	119	3.08*	.97
Humans abusing envir	122	3.80	1.13
Natural resources	122	2.61*	1.22
Plants and animals	122	3.75	1.25
Nature strong enough	121	3.51*	.98
Laws of nature	122	4.29	.82
Ecological crisis	120	3.43*	1.16
Limited resources	121	3.44	1.05
Humans meant to rule	122	3.18*	1.25
Delicate balance of nature	122	3.87	.96
Humans will learn control	122	3.57*	.97
Ecological catastrophe soon	122	3.54	1.11
Economic Behaviors			
Track cost savings	121	3.68	1.09
Energy efficient lighting	120	4.75	.55
Low flow plumbing	122	4.28	.88
Solar power	122	3.61	1.01
Environmental Behaviors			
Sustainability plan	122	3.68	1.07
Offer recycling	122	4.64	.67
Offer composting	122	3.73	1.09
Manage stormwater runoff	121	4.31	.95

Table 3 Continued

Item	N	Mean	Standard Deviation
Track water usage	122	4.06	1.13
Wildlife inventories	122	3.45	1.23
Social Behaviors			
Educate users	122	4.01	1.03
Cultural education	121	4.34	.90
Sustainability certification	122	3.48	1.16

*score after reverse coding

Table 4: Results of OLS Regression-Based Path Analysis

Path	Path Coefficient	Standard Error	t	p	95% Confidence Intervals Lower Limit	Upper Limit
Values→Beliefs	.66	.11	6.10	.00	.45	.88
Beliefs→Behavior	.27	.09	2.96	.00	.09	.45
Values→Behavior	.35	.12	2.87	.00	.11	.60
Indirect Effect	.18	.07			.06	.33

Table 5: Results of OLS Analysis of Demographic Factors

Parameter	B	Standard Error	t	p	95% Confidence Intervals Lower Limit	95% Confidence Intervals Upper Limit
Values	.39	.13	3.10	.00	.14	.63
Beliefs	.33	.10	3.44	.00	.14	.52
Gender	.20	.10	1.99	.05	.00	.41
Education						
Less than BS	-.29	.16	-1.76	.08	-.62	.04
BS	-.05	.11	-.47	.64	-.23	.17
Greater than BS	Reference level for other education categories					
Years Experience	.00	.00	.83	.41	-.01	.01

Table 6: Results of MLE Path Analysis Regression

Path	Estimate	Standard Error	C.R.	p
Altruistic Values→Beliefs	.07	.06	1.16	.25
Biospheric Values→Beliefs	.61	.07	8.81	.00
Egoistic Values→Beliefs	-.06	.07	-.96	.34
Beliefs→Economic Behavior	.26	.09	2.93	.00
Beliefs→Environmental Behavior	.35	.09	3.81	.00
Beliefs→Social Behavior	.66	.11	5.80	.00

Table 7: Results of MLE Path Analysis Variances

Variances	Estimate	Standard Error	C.R.	p
Altruistic Values	.42	.05	7.78	.00
Biospheric Values	.36	.05	7.78	.00
Egoistic Values	.38	.05	7.78	.00

Table 8: Respondent Comments Regarding Constraints

Constraint Type	Participant Comment
Intrapersonal	Not knowing
Interpersonal	Lack of interest from others
Interpersonal / Structural	Narrow minds
Structural	Available funding and resources (people)
Structural	Decisiveness due to political tendencies and funding. Lack of manpower to dedicate to the effort has also been an issue at times.
Structural	Lack of staff to pick through the recycle bins
Structural	Staffing needs, locations, funding, back log of maintenance, guest satisfaction, equipment
Structural	The constraints of municipal government (spending/costs to implement change, and the manpower for such change)
Structural	The position I held at the time and funding
Structural	Time / money
Structural / Interpersonal	Logistics and upper management
Structural / Interpersonal	Management decisions to ease job duties of other staff
Structural / Interpersonal	Previous administration (generational) viewpoints were not seen as a priority or necessity until cost savings identified.

Vita

Originally from South Carolina, Scott Smith grew up in South Carolina, Louisiana, South Carolina (again), New Jersey, and Florida. After high school, he started his tour of SEC schools at Auburn University. After transferring, he earned his Bachelor of Science degree in Business Administration at the University of Florida. He stayed at Florida for his Master of Exercise and Sport Sciences degree. If you would have told him then that he would eventually end up at the University of Tennessee to pursue his Doctor of Philosophy degree in Kinesiology and Sport Studies, he would have said, "You're crazy!" However, that is what happened, and he loves it in Knoxville. His research interests include adult recreation and sustainability in sport. After graduation, he will continue to work in higher education administration with a few research studies sprinkled in. He cannot express his gratitude enough for the support of his family, friends, and colleagues in this endeavor.